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SPENCER W. ROBINSON, EDITOR

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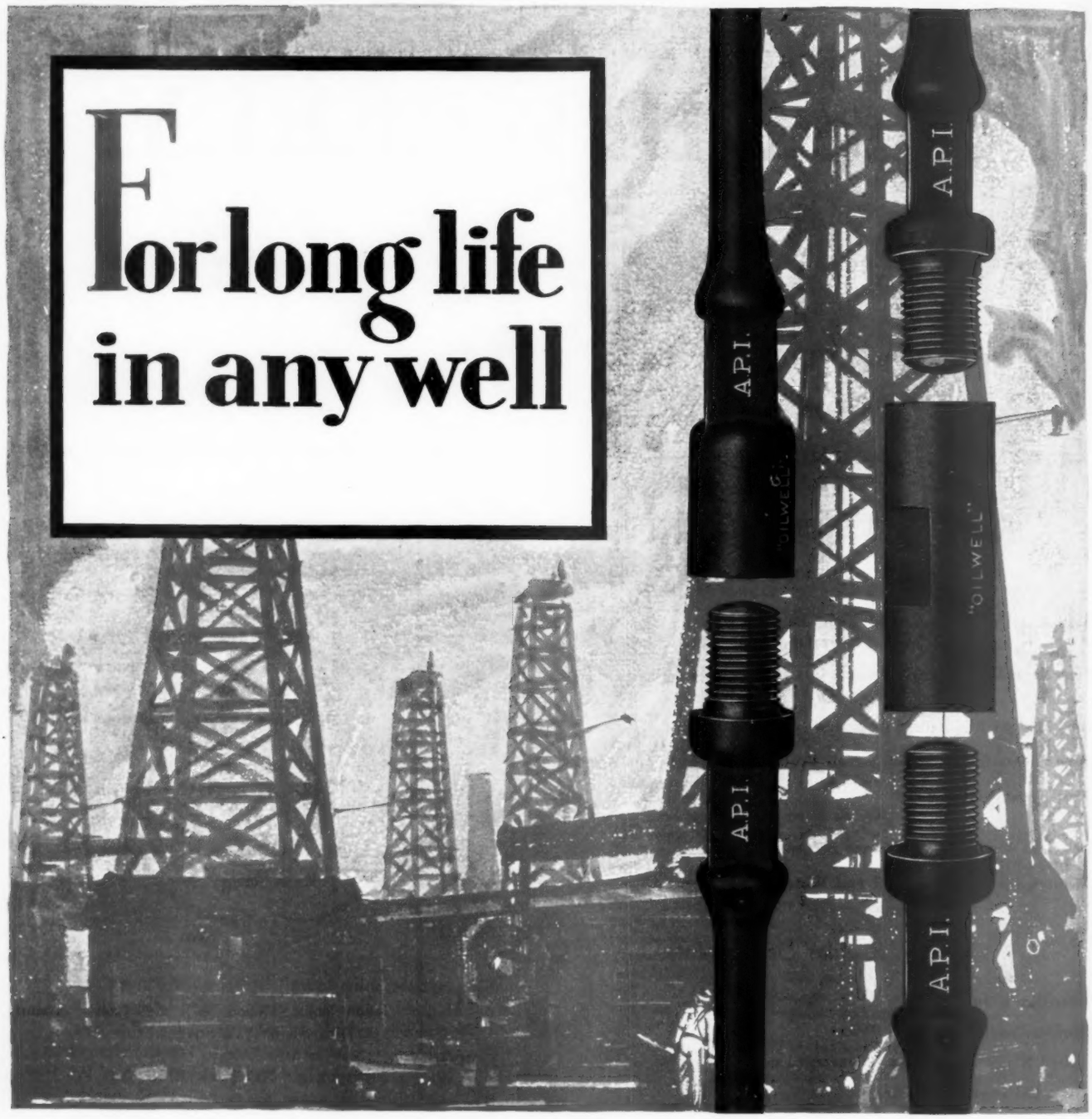

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Volume 54, No. 11 *August 30, 1929*

The OIL WEEKLY

A GULF PUBLISHING COMPANY PUBLICATION

Frictional Properties *of* Oil Field Belting

By ROBERT BURNETT

DUE to the excessive stresses under which belting must perform in the service of deep well pumping in the oil fields, the subject of friction, with respect to the transmission surfaces of pulley and belt, is one of very material importance.

It is neither convenient nor effective, ordinarily, to dress a composition belt prior to its installation and yet it is during the early period of its service that a high coefficient of friction is most necessary. The reason is that the pulley centers of a pumping rig are fixed and the only means of adjusting the belt tension is by stopping the rig and taking up the belt at the joint when it has stretched sufficiently to induce noticeable slip. Obviously, the higher the initial coefficient of friction, the less frequent will be these necessary shut downs for adjustment, or the less will be the damage suffered by the belt because of slippage in the interim between adjustments.

It is not at all uncommon in the oil fields to have to cut a new belt two or more times during its first day of operation and as many as half a dozen times during its first week, and since these adjustments are made during the daytime, except in cases of emergency, the belt slips a great deal throughout the night. This, of course, results in a polished transmission surface having a much lower coefficient of friction than was possessed by the belt at the time of its installation, and consequently the belt must be kept abnormally tight thereafter in order to make it pull the load. Moreover, the same abuse that causes the decline in frictional property also damages the belt structurally, so that it is less able to endure the added but necessary stresses.

The reader may wonder why the belt crew does not remain on the job until the new belt is finally "run-in" and operating efficiently, but the fact is that these men have a multitude of other duties to perform and may have 40 or 50 additional wells to service. Consequently they do the best they can, giving attention to the new belt when convenient, and probably dressing it after the "dead stretch" has been worked out in an effort to increase the diminished surface friction.

The tests hereafter described and recorded, determine the coefficient of static friction, slip impending, of 15 flat specimens of new belting, representing 14 different makes and all five of the types of belting commonly used in the oil fields. The apparatus, method of test, and discussion of results are presented consecutively:

Method of Conducting Test

A four-inch square specimen was cut from the belts submitted for test and placed on the polished steel plate. The slotted machine plate was placed over the specimen and weights placed on it. A spring scale which had been tested for accuracy, was attached by an eye to the machined plate. Force was applied to the slotted plate (and belt) by means of a cord attached to the other end of the spring scale, through a pulley and connected to a chain hoist.

Care was taken to see that the belt specimens were uniformly loaded and that the force applied was parellel to the surface of the polished plate.

The specimens were tested in the direction the belts worked in practice.

Each specimen was tested at two different loads, several readings being taken for each. In case of a variation the average reading was taken.

The readings consisted of the total load on the four-inch square specimen and the pull registered on the spring scale at the moment of slipping.

From these readings the coefficient of friction for each of the three specimens was figured by dividing the pull in pounds by total load in pounds.

In as much as the power transmission ability of a belt is very largely a function of the frictional characteristic of its surface, it will be interesting to note the degree of variation of this characteristic as between different types of belting. The following table, although too incomplete to be conclusive of anything, is at least indicative. All of the specimens here recorded were cut from unused stock, but the rubber belts were thoroughly washed before testing in order to remove the soap stone or talc with which their surfaces were powdered. All tests were performed in the manner outlined in the preceding paragraphs.

Type of Belt	No. Specimens	Av. total load	Av. pull lbs.	Coefficient of frict'n
Rubber	12	240	56	.233
Balata	4	240	53	.219
Hair	4	240	45	.188
Woven Cotton	6	240	68	.285
Stitched Canvas	4	240	65	.270

These results would indicate that the solid woven cotton type should be the most efficient transmitter of power, at least initially, with the canvas, rubber, balata, and hair following behind in the order named. Following is a list of the individual belts tested, together with the test results:

No. of tests	Avg. total load lbs.	Avg. pull lbs.	Coefficient of friction	Type
2	240	55	.229	Balata
2	240	50	.209	Balata
2	240	60	.250	Stitched
2	240	70	.292	Canvas
2	240	65	.271	Solid
2	240	60	.250	Woven
2	240	80	.333	Cotton
2	240	45	.188	Hair
2	240	45	.188	Hair
2	240	55	.229	Rubber
2	240	45	.188	Rubber
4	240	48	.198	Rubber
2	240	60	.250	Rubber
2	240	80	.333	Rubber

In addition to the 30 tests just recorded,

are four of unusual interest because of the degree in which the belts represented transcend the characteristic of the types to which they belong. One of these is the solid woven cotton belt with a coefficient of 0.645, and the other is a friction surface rubber belt with a coefficient of 0.417. Following are the data:

No. of Tests	Total Load	Total Pull	Coeff. of Friction	Type
1	240	155	.645	Solid Woven Cotton
1	150	96	.640	Friction Surface
1	240	100	.417	Rubber
1	150	62	.413	

The abnormally high coefficients of both of these belts result from the nature of the impregnant used: the woven cotton being heavily stuffed with a viscous asphaltum compound (petrolatum and tar) and the rubber with a soft and tenaciously adhesive rubber. It is not to be expected that either of these belts would retain such excellent frictional properties after a period of usage and, indeed, field experience demonstrates that they do not. Nevertheless, from the mechanical standpoint, a high initial coefficient of friction is desirable, whether or not it long persists, for the reason that all belts loosen-up on the rig soon after they are installed, and unless a high coefficient of friction compensates for the loss of tension, they immediately begin to slip and are damaged in consequence. The only inquiry of importance, then, regarding these two belts is whether the impregnant that does the initial good may be responsible for a greater amount of evil later on.

In the case of the woven cotton belt, evil might be expected because asphalt, besides being injurious to fabric, has the property of hardening and glazing under influences of pressure and slip. Soft rubber will, on the other hand, disintegrate and "rub off" under like influences and leave the bare fabric exposed. It may also ball-up on the pulleys and cause transverse cracking of the belt.

It would seem to be a great deal more logical to provide whatever additional friction is necessary, both initially and subsequently, by use of a chemically harmless dressing such as refined castor oil or its derivatives, or compounds, rather than to incorporate either unrefined asphaltum or spongy rubber integrally in the belt. No extensive data regarding the augmenting effect of these dressings upon the frictional characteristics of belting are at hand, but it may be conclusively stated that the effect is great enough to more than warrant their use. For example, the writer treated a pumping belt at Cotton Valley, Louisiana, which was slipping so badly that it was destined soon to fail, and almost immediately restored it to full efficiency. This rig was very much over loaded, as most of them are, and so no blame could be attached to the belt because of the excessive slippage. Nevertheless a shut down was imminent and it was decided to try a new dressing for which unusual claims were made. Within five minutes after application, no semblance of slip was apparent and the pump strokes had increased in number from 18 to 21 per minute. Moreover, the rig was still running at top effiicency when the writer left one week later.

Drumright Engineering Section Studies Belt Problems

DRUMRIGHT, Okla.—An interesting and educational series of talks on "Belting and Clamps" featured the regular monthly meeting of the Drumright Section of the American Petroleum Institute Division of Development and Production Engineering here August 20. The meeting was held in the American Legion hut with 65 present.

E. L. Bell, Shaffer Oil & Refining Company, secretary of the Drumright section, acted as chairman in the absence of W. M. Bettis, Gypsy Oil Company. Bell commenced the discussion and series of papers by reviewing the development of the present A. P. I. belting. After much delay and confusion a standardized belt was agreed upon by a committee, which called for a better belt than in use at that time. This move resulted in experiments on the part of the belt manufacturers with the result that the oil industry has a better, more rigid and sturdy belt.

H. H. Wright, Gypsy Oil Company, Drumright, followed with a general paper on belting including characteristics, care and manufacturing of the various types of belting. He read the A. P. I. recommendations for care and use of oil field belting as found in Section L, under the A. P. I. Specifications on Belting for Oil Country Purposes, and urged the adoption of this code, urging "Give the Belt a Chance".

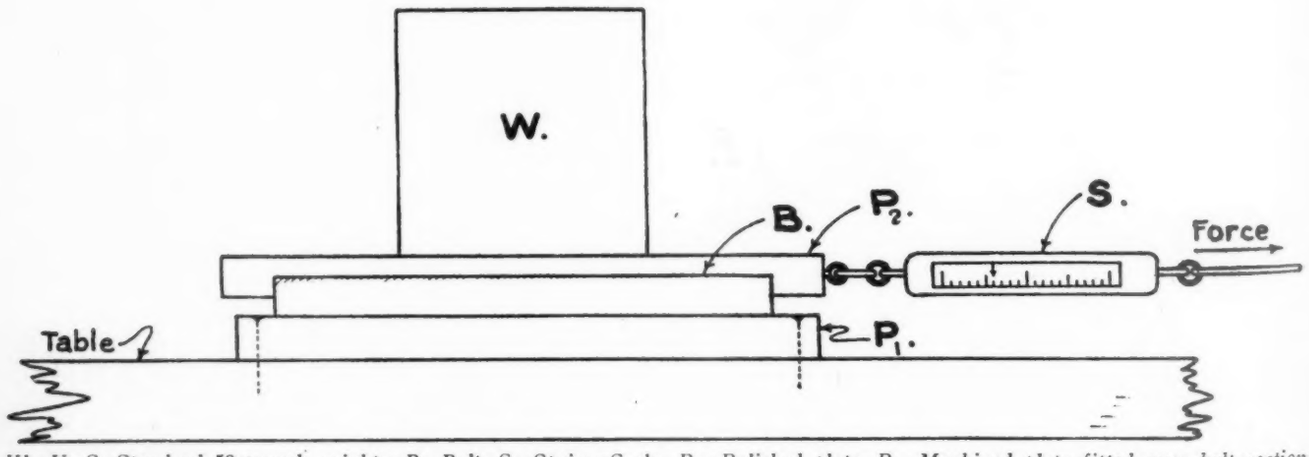
Clamps

Harold Decker, Tidal Oil Company, Tulsa, gave an interesting as well as educational discussion of the various belt clamps now in general use in the oil country. A recent survey of the Tidal Oil Company, according to Decker, which covered a period of a year, showed 88 belt jobs in the Drumright and Cushing area on 21 wells. Of this number 13 had to be replaced. There were 48 belt jobs due to clamp breakage or pulling out of the belt, or 54 per cent. Of the clamp failures, 72 per cent. were due to bolt breakage. Better designed clamps and bolts are needed, he declared.

According to Decker his solution of the belt problem has been endless belts as now made by practically all belt manufacturers, or chain drives. He quoted a record where a belt of the endless type had served 168 days without any trouble, whereas in the previous 178 days on clamp belting it had 11 breaks. However, it is Decker's belief that the cost of installing the endless belt warrants its use only on hard or heavy pumping wells.

At this point Decker showed the au-

(Continued on page 66)



W—U. S. Standard 50-pound weights. B—Belt. S—Spring Scale. P_1—Polished plate. P_2—Machined plate fitted over belt section

LONG LINE *Delivering Wyoming Gas to* SALT LAKE CITY

By R. L. HAZLETT

EVANSTON, Wyoming. — Completion of the gas line to supply Salt Lake City with gas from the fields in Southeastern Wyoming and Northwestern Colorado was celebrated here following the final weld in the 122-mile 18-inch pipe near here on August 20. The public celebration was attended by people from all parts of the section and included speech making, a barbecue and dance.

Since the discovery of gas in Baxter Basin several years ago, it has been the vision of interested parties to supply Salt Lake and its neighboring territory with natural gas. Two years ago, when Ohio Oil Company and the Crawford interests became jointly interested in the enterprise. Companies were organized, one for production of the gas, one for transportation lines, and others for distribution systems. Construction work on the line was begun early in January, 1929.

Organization

The holding company, which controls the producing, transporting and distributing companies, is the Western Public Service Corporation, which is controlled by the Crawford interests, the Mellon interests, and Ohio Oil Company. Producers & Refiners Corporation at first shared the control because of the gas acreage it held, but it is reported that it has sold its stock to the Mellon interests. George W. Crawford is chairman of the board of directors of the Western Public Service Corporation, O. D. Donnell, president of Ohio Oil Company is president; T. B. Gregory of the Crawford interests, is one of the vice presidents and is treasurer of the board; R. J. Berry of Ohio Oil Company is the other vice president; D. E. Mitchell of Pittsburgh is the secretary and assistant treasurer, and F. B. Firmin and E. B. Redpath are the assistant secretaries and treasurers.

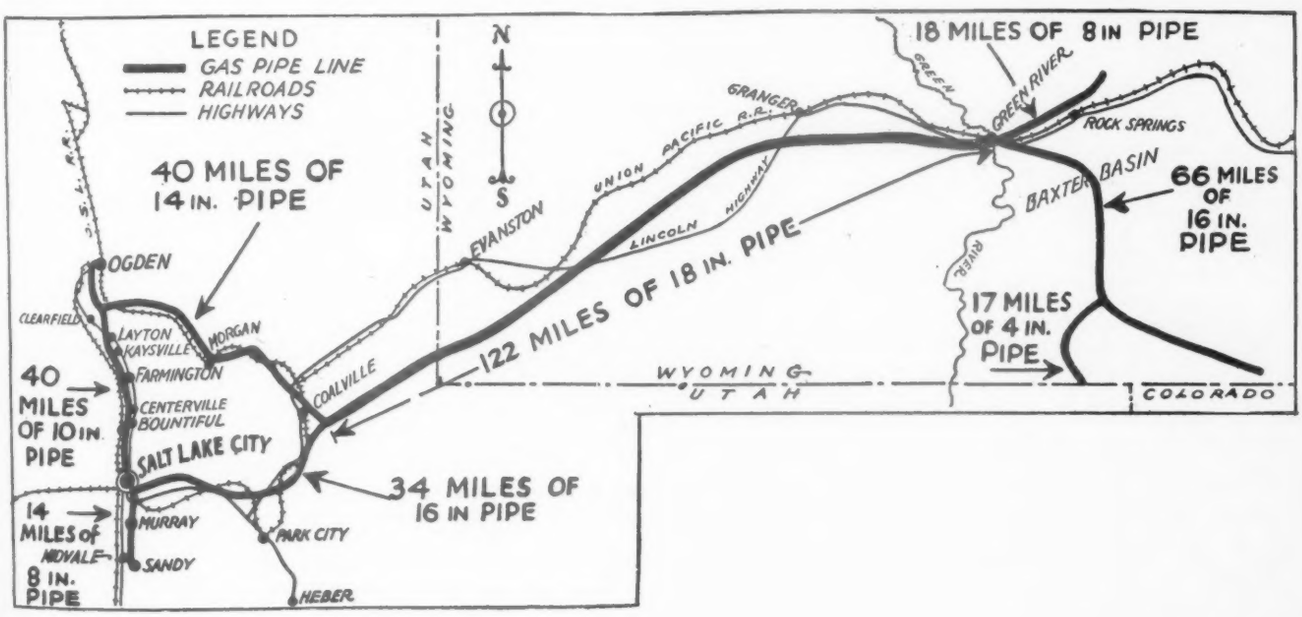
The producing subsidiary, which will own and lease the acreage, drill new wells, buy production, and construct the gathering lines is the Rocky Mountain Fuel Supply Company, with headquarters at Rock Springs, Wyoming, about 60 miles north of the gas fields. John McFayden, vice president of Ohio Oil Company is president; C. R. Hetzler is secretary and treasurer, and N. L. Battenschlag assistant secretary and treasurer.

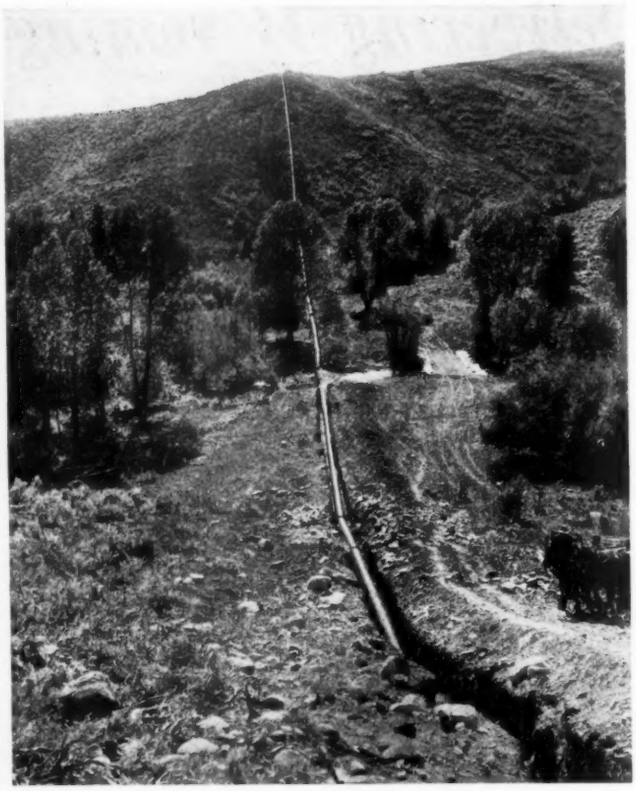
Uinta Pipe Line Company is the transportation subsidiary, which constructed and will control the 18-inch trunk line from Kanda, seven miles east of Green River, Wyoming, to Coalville, Utah, where it branches into a 16-inch line to the city limits of Salt Lake City, and into a 14-inch line to the city limits of Ogden. The transportation company's president is W. A. Miller, Sr., also president of the Illinois Pipe Line Company. The vice presidents are E. B. Redpath and Frank McCarthy. The latter was formerly chief engineer for the Producers and Refineries Corporation. E. B. Redpath is secretary, F. B. Firmin treasurer and W. B. Filson and G. E. Pleasants are the assistant secretaries.

Wasatch Gas Company will be the distributing company for Salt Lake City and Ogden. It will also own and operate the 53 miles of the 10-inch gas pipe line between Salt Lake City and Ogden, as well as the distributing systems for several small towns in that district. L. B. Denning of Lone Star Gas Company is president of the Wasatch Gas Company, L. Fitzpatrick of Ohio Oil Company is vice president and general manager; J. D. Roberts, T. B. Gregory and R. J. Berry, are also vice presidents; D. E. Mitchell of Columbia Gas & Electric Company is the secretary and assistant treasurer; Frank B. Firmin is treasurer and assistant secretary, and L. C. Oplin is assistant secretary and assistant treasurer.

Gathering Lines

The gathering system laid by Mountain Fuel Supply Company consists of a 66-mile line of 16-inch pipe running from Hiawatha Dome in Colorado north through Middle Baxter Basin where 17 miles of 4-inch pipe, coming from South Baxter Basin is connected to it. Here the line continues to with-





A grade of 60 per cent. does not stop pipe line construction. Sections that comprise this portion of the line were welded on top of the hill and then lowered into position.

Wyoming-Utah Line First 18-Inch Arc Welded Gas Pipe

Pipe used in the Uinta Pipe Line Company's arc welded line from the junction of gathering lines southeast of Rock Springs, Wyoming, to Ogden and Salt Lake City, Utah, is of arc welded manufacture produced in 30-foot lengths having bell and spigot with welding dam ends. Each length weighs 1600 pounds. Due to the ruggedness of the country and the steep grades encountered, some of the pipe had to be snaked into position by tractor, after having been delivered as near location as possible by truck.

The customary practice of lining up a number of lengths of pipe to form a section is followed in the construction of this line. The number of pipe lengths in each section varies, depending upon the contour of the ground. In lining up a section, the spigot ends of the pipe lengths are inserted into the bell ends and the entire section, thus formed, is leveled by shoring or blocking up with timbers. One innovation which facilitates turning of sections, during welding operations, was introduced on this line. A set of four steel rollers consisting of two pair mounted on a steel channel base is placed on top shoring timber on which the pipe rests.

To take care of the expansion and contraction of the finished line, caused by temperature changes, a special type of an expansion joint of all steel construction is welded into the line at intervals.

The major portion of this line was arc welded by the owners, the Uinta Pipe Line Company, who are using 10 "Stable-Arc" Welders, manufactured by The Lincoln Electric Company of Cleveland, Ohio. They are of the gas engine driven type of 300 ampere capacity with a current range of 75 to 400 amperes, and operating at a speed of 1500 rpm. The engine is directly connected to the generator by a flexible coupling and both mounted on a structural steel channel base. The welders are mounted on wagons and are moved along the line by teams.

This pipe line is the first of 18-inch size to be arc welded.

in 6 miles of Green River where it is again joined by a lateral line, the 18 miles of 8-inch pipe coming from North Baxter Basin. From this junction the 16-inch line continues to Green River where it hooks up to the main sector.

Work on the gathering lines began last January and was finished near the last of July. Herman Kaiser, trucking contractor, handled the hauling and stringing of the seamless pipe manufactured by the National Tube Company. The Mountain Fuel Supply Company handling the welding of the line. No great difficulties were encountered in the laying of the field lines, but the extreme cold weather encountered during the winter slowed down construction.

Trunk Line

Uinta Pipe Line Company constructed the trunk line running from just east of Green River to Coalville, Utah, where it forks, one branch running to the city limits of Salt Lake City, and the other still under construction because of the many river crossings, running to the city limits of Ogden. The Green River-Coalville sector consists of 18-inch "Smithwelded" pipe, and is 122 miles long. The Coalville-Salt Lake City branch is 34 miles and is 16-inch Smithwelded pipe. The branch to Ogden is 40 miles, and is made up of 14-inch Smithwelded pipe. This makes a total of 196 miles of major trunk lines.

Uinta Pipe Line Company started the work east through Parley's Canyon on the Salt Lake-Coalville sector in January. Here the worst pipe line country was encountered, and because of the severe weather great difficulty was given the men in laying the line. In places the grades were so steep that a caterpillar with a winch attachment had to be stationed at the top of the grade and pull the truck loads of pipe on to the line. In others the pipe had to be piled and then strung by the caterpillar. Finally as the pipe line progressed into the higher country, the snow became so deep that the pipe was trucked as near to the line as possible and piled to be strung by horses and sleds. Then with the coming of spring thaws, the mud was so deep that it was impossible to drive trucks, and many miles of planked road were built, so that the steady progress of the line would not be halted to wait for better weather. Finally by the middle of June, this sector was finished. While the gang was working east through Parley's canyon, Fred Newman's fleet of 14 White trucks were busily stringing pipe out of Green River, and Granger to the west, and ditching machines were busy working both east and west on the Green River-Coalville sector. As fast as the ditcher would move along the strung pipe the welders would follow, and the pipe would soon be stabbed-in with the back throwing machine filling the ditch. Then in June with the gang that was working in Parley's Canyon, working east out of Evanston on the big sector the line was rapidly nearing completion. By July 6 all of the pipe was strung and ditch dug, and the last weld made on August 20.

Uinta Pipe Line Company handled the ditch digging and welding jobs itself, but a contract was let to the trucking firm of Weadick & Utzinger for the stringing of the pipe.

Construction of the line involved the solving of several difficult engineering problems, but they were solved without delaying the progress of the line, by an efficient and well managed engineering department. The pipe line

(Continued on page 28)

Mud Weight Maintained *By* Special Aerating Process

PAN American Petroleum Company and Richfield Oil Company's Miley-Hobson and Hobson Fee leases, in the Rincon field comprise a narrow triangular strip of land approximately 3300 feet long. At the southeast end it is approximately 105 feet wide and gradually narrows out to a point at its northwestern extremity. A state highway forms the northeast boundary of the property and adjacent to the highway is the main line of the Southern Pacific Railroad. The southwest line of the properties is the Pacific Ocean.

Upon this narrow strip, eight wells have been completed and three are in various stages of being drilled. In addition to the wells, there are also situated upon the properties the main offices of the Coast Division of the Richfield Oil Company with its accompanying warehouses and pipe-racks, a 20,000-gallon gasoline plant, and the accessory equipment and production tanks that ordinarily are to be found upon most drilling and producing properties.

In addition to the above there is also the Hobson State lease, situated in the ocean. This lease adjoins the two leases mentioned above. Upon the State lease, there is one producing and one partially drilled well.

The rotary drilling mud used during the drilling of the wells upon these properties was obtained from the Ventura field, approximately 10 miles distant. This mud was hauled to the wells in tank trucks at a cost of 50 cent per barrel. Due to the congested condition of the lease and to its location between the highway and the ocean, only a small amount of mud could be handled upon the property at any time. When, during the drilling of the wells, an excess amount of mud occurred, it was necessary to haul it away. The cost of disposing of this mud amounted to 40 cents per barrel.

The necessity of devising some method of rejuvenating the drilling mud, due to lack of storage space, the cost of obtaining new, and to the cost of disposing of the used mud, became an important factor while drilling Hobson Fee 1, at a depth of 7000 feet. This was due to the fact, that while drilling the well at that depth, much oil and gas was encountered, the result was that the circulating mud was cut up to such an extent that frequent renewals were necessary. The condition of the mud at that time was particularly important, due to the fact that it required mud weighing from 95 to 103 pounds per cubic foot in order to keep the well under control.

To overcome this difficulty, the mud was handled in the following manner:

A three-inch line was connected up from the flow line in the casing to a Christmas tree, approximately 12 feet from the well and outside of the rig.

From the Christmas tree there were two three-inch lines, one extending to the well's mud pit, the other being connected up to the inlet of a gas trap, eight foot distant. From the outlet of the gas trap, a three-inch line was laid to a mud pit. A mud pump situated at the pit was connected to a cooling tower some distance away by a three-inch line.

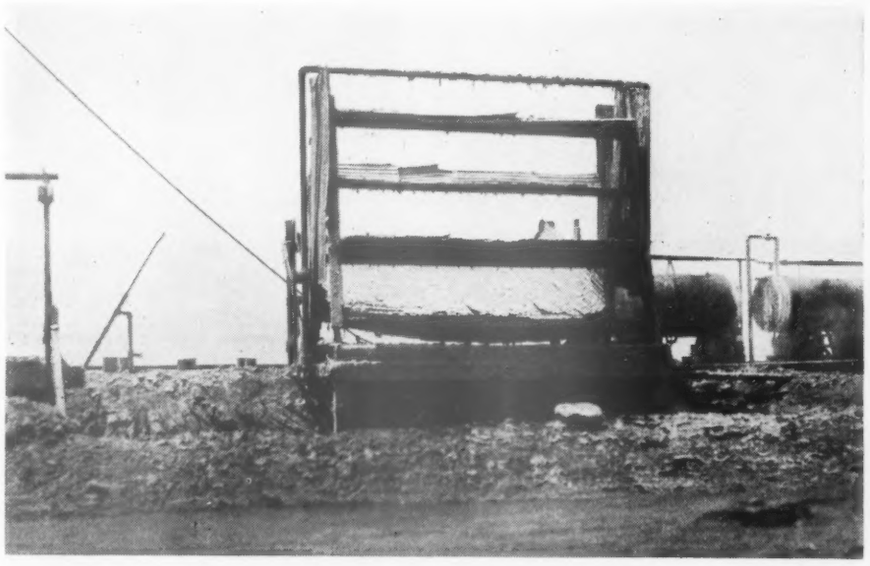
The cooling tower was constructed of three-inch pipe, welded together at the joints, so as to form a rectangular base 10 by 16 feet, with vertical triangular ends. These ends were tied together with a series of two-inch pipes, spaced approximately two feet apart. In addition a three-inch flow line extended from the apex of one triangle to the apex of the other. A number of small holes were drilled on the under side of this three-inch pipe, throughout its length. Upon the longitudinal two-inch pipes, four corrugated, horizontal, sheet iron, baffle plates were laid. These plates were staggered, one above the other, so that each plate formed an oblique angle with the one above. The smallest plate being at the top and the largest at the bottom. A cleaning by-pass was also connected to the three-inch flow line extending along the top of the tower. This was for the purpose of circulating clean mud fluid through the line in order to wash out the perforations when they became clogged with foreign matter.

The outlet from the cooling tower was into a large mud sump. A mud pump was placed at this sump. The pump had a suction line extending into the sump and the discharge was connected to a three-inch line leading back to the mud pit at Hobson Fee 1.

The gas cut mud issuing from Hobson Fee 1, while being drilled below 7000 feet, was under a high pressure. This was due to the necessity of packing off between the drill pipe and the casing in order to control the well, to the pressure formed by the mud pumps while circulating, and to the additional pressure exerted by the gas and oil entering the well.

The circulating fluid, upon leaving the well, flowed through the line to the Christmas tree, where it was either diverted to the mud pit or through the line leading to the gas trap, depending upon the condition of the mud.

When the mud was badly cut with oil



"Cooling Tower" used in treating mud to restore weight

and gas, it was run through the gas trap. In passing through this trap, the weight of the mud was increased from 48 pounds to approximately 75 pounds per cubic foot. This increase in weight was apparently due to allowing a large portion of the gas to escape from the mud. From the trap, the mud flowed into a pit.

The mud was then picked up from the pit by a large pump and forced through a three-inch line to the cooling tower. Upon entering the latter, the mud flowed through the small holes extending throughout the length of the under side of the three-inch line along the top of the tower. From these holes, the fluid flowed over the surface of the uppermost baffle plate, then dropped to the baffle plate below and flowed upon its surface in the reverse direction. From the second baffle plate, the mud fluid dropped to the third plate, where again, its direction of flow was reversed. After passing over the third plate, it dropped to the fourth and upon flowing over the latter, the fluid was discharged into a large sump.

The mud fluid upon entering the cooling tower normally weighed 75 pounds per cubic foot, but upon emerging from the tower the mud weighed approximately 95 pounds per cubic foot, thus having gained 20 pounds in weight during its passage through the tower. This increase in weight was apparently due to the evaporation of the excess fluid and to the escape of additional gas. The mud after having been treated in the above manner, was in approximately the same condition as when first delivered at the well.

When circulating mud was required at Hobson Fee 1, rejuvenated mud was picked up from the sump by the large mud pump and forced through the mud line to the pit at the well. From the mud pit at the well, the mud fluid was circulated into the hole in the usual manner.

Long Line Delivering Wyoming Gas to Salt Lake City

(Continued from page 26)

will pass under water for two miles when the Echo dam project is completed near Coalville, but it will pass along the edge of the lake and will be submerged only a few feet. The trunk line passes over a point 7700 feet in elevation when it crosses the divide of the Wasatch range east of Salt Lake City.

Frank McCarthy, who engineered the construction of the line, as vice president and general manager of the company, will have charge of the operation of the line.

Distributing Systems

Wasatch Gas Company has completed 53 miles of pipe line between Salt Lake City and Ogden. The line consists of 40 miles of 10-inch seamless pipe manufactured by the National Tube Company. It runs north from Salt Lake through Ogden to Clearfield, supplying all the intermediate towns together with 13 miles of 8-inch pipe running south to Sandy, Utah. This line makes a complete circuit as it can hook up with the Ogden city distributing system to which the Coalville-Ogden sector of the trunk line will be connected when completed. This hook-up makes it possible to supply Ogden with gas immediately, and there need be no waiting until the Ogden-Coalville trunk line is completed.

Wasatch Gas Company officials hold the same positions in the Utah Gas & Coke Company which distributes the gas within the city limits of Salt Lake City. The company formerly controlled by the Insull interests, owned and operated the artificial gas mains in the city. These mains have been enlarged and new ones added until an adequate distributing system has been completed, and the company is waiting only for the turning of the valve to let the gas into the city mains.

Ogden Gas Company, like the Utah Gas & Coke Company, has the same officers as Wasatch Gas Company. The company has completed the work of enlarging its system, and is now waiting for the gas. The distributing company for southwestern Wyoming towns along the line is the Rocky Mountain Gas Company, subsidiary of Ohio Oil Company, which distributes gas in Billings, Montana, and neighboring towns. It has completed systems in Green River, Evanston and Rawlings. Green River is already using the gas.

Cost $22,000,000

A conservative estimate on the cost of the Western Public Service Company's Wyoming-Utah gas system, including all lateral lines, has been placed at $22,000,000.

The length of the gas system is approximately 334 miles of pipe, all welded, and it will supply over half the population of Utah with gas. Salt Lake City has a population of 175,000, and Ogden 50,000, and several smaller towns are supplied. The domestic consumption in these cities and towns, together with the industrial consumption of the large smelters in the vicinity of Salt Lake, the large cement and brick works, and other smaller industries, furnish a big market for the natural gas.

The structures from which the system will receive its gas supply are North Baxter Basin with one well drilled with 60,000,000-foot flow, Middle Baxter Basin with one well of 4,000,000-foot and South Baxter Basin with 10 producing wells. South Baxter has a rock pressure of 1000 pounds per square inch. On the Colorado-Wyoming line is Hiawatha Dome with four producing wells with an average of 50,000,000 cubic feet of gas per day per well. Beside these gas fields, the company controlls the Clay Basin field in Utah with one well with an open flow of 7,500,000 cubic feet and a rock pressure of 2100 pounds.

Western Public Service Company has announced domestic rates for Salt Lake City, Ogden and other Utah towns as follows:

First 400 cubic feet or part, 90 cents.

Next 600 cubic feet 15 cents per 100 cubic feet.

Next 1000 cubic feet 12 cents per 100 cubic feet.

Next 1000 cubic feet 7½ cents per 100 cubic feet.

Next 2000 cubic feet 6 cents per 100 cubic feet.

All over 5000 cubic feet 5 cents per 100 cubic feet.

Minimum bill 90 cents.

The company expects to lay a line north from Ogden to Pocatello, Idaho, to supply the towns of northern Utah and southern Idaho. However, nothing definite has been done toward this project.

It is also planned to lay a line south from Salt Lake to Murray, which will eventually be extended to Provo.

Humble camp in the Raccoon Bend field, Austin County, Texas

Experiments Show Nickel Screen Economical in Gulf Coast

Saving in both material and oil recovery proven by tests made over long period

NEARLY all of the production in the Gulf Coast is from sands in which screen or strainer must be set in completing wells, and the corrosion of that screen pipe or strainer through the action of hydrogen sulphide constitutes a major problem in operating properties in Coastal fields.

Even at Goose Creek and similar areas which are usually regarded as practically non-sulphide fields, the present widely used bronze screens, consisting of steel pipe wrapped with bronze wire, will seal up with copper sulphide, at length wholly excluding oil from the well; and at Spindle Top, Batson and various other fields producing crude with high sulphur content, the corrosive action is particularly destructive and rapid. Aside from sealing of the screen with copper sulphide, another common difficulty with bronze screens is sanding up of the well when a hole is eaten in the steel pipe of the screen, allowing the overlying wire to move out of place and to leave an opening through which sand can enter the well.

In view of the wide extent of the corrosion problem and the great cost of dealing with it, one of the major producing companies of the Gulf Coast began making surveys in connection with it several years ago and started experimenting with various metals with the hope of finding materials more suitable than those already in use.

"It was found by this company that the average cost of installing and maintaining bronze screens was around five cents per barrel of production," said an engineer of this company, "and that approximately 75 per cent. of that total screen cost was due to corrosion." The company has made experiments with various metals over a period of several years, and it has been concluded that the most satisfactory material, considering cost, tensile strength, and other points, is nickel. With screens made of nickel, it has been found, there is no corrosion, the company claims.

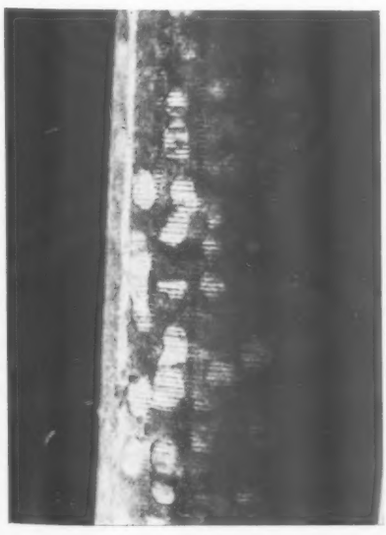
In one well at Spindle Top screen made of nickel was set 3½ years ago and it is still there, unhurt by corrosion. Ordinary steel tubing in that well will go out in 15 or 20 days. Galvanized tubing will last only 60 days, and brass tubing is good for only six months.

Records on a well at Goose Creek, also, are interesting. During the first three years following completion, bronze screen was used in the well. During that period it had eight strainer settings and produced a total of 40,000 barrels, including the flush production of the well. At the end of the three years, nickel screen was substituted for the brass, and during the following 18 months the well produced 30,000 barrels. Thus the annual settled production with the nickel screen was 20,000 barrels, as against 13,000 barrels annually including flush production with bronze screen. The increased production was due to elimination of loss of time for workover jobs, as well as to greater efficiency of the screen itself, through absence of corrosion.

Nickel has a higher tensile strength than pipe steel, and so no special care is required in handling the nickel screen. It is tough and strong.

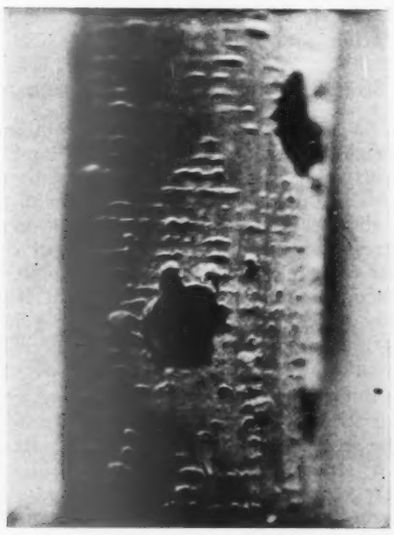
Regarding the comparative costs of nickel and bronze screens, it has been found that although the cost of nickel is three times as great as that of bronze, the cost of completing installation of nickel screen will run only about 30 per cent higher than the cost of installing bronze screen; labor costs in either case constituting a large part of the total cost of the screen work. Explaining further, it was found that on the average the cost of bronze screen amounted to only 15 per cent. of the total cost of the screen job. Thus out of each $100 spent in screen work $15 went for buying screen and $85 for labor and other costs. Substituting nickel for bronze screen, at a tripled cost, the proportion would be $45 for screen and $85 for other costs, or a total cost of $130. As pointed out above, that represents a total increase of only 30 per cent. on the whole cost.

Following this experimentation consultations were held with screen manufacturers, and several of them are now equipped to supply the nickel screens.



Copper sulphide on bronze screen used at Batson

Opening between wires on bronze screen in Goose Creek well caused by hole corroded in steel pipe under wire



Same as center picture with wire removed, showing hole in steel pipe

[FOURTH INSTALLMENT]

Heat Treatment *of* STEEL

By HARRY PENNINGTON

Mechanical Engineer, Member American Society for Steel Treating; Member American Society for Testing Materials

THERE has been developed but one method of furnishing large diameter shafts with reliability and strength commensurate with the size. That method is hollow boring the shaft before treating.

As shown in Figure 8, in an eight-inch diameter shaft with a four-inch hole bored through it, while heating may be as thorough as in a solid shaft, and whole shaft may be brought up to critical temperature evenly, there is no inner core to resist the alternate stresses set up by the outer section. The outer section shown may expand and contract freely, without internal stresses and fracture as in the solid shaft.

When quenched, the hollow bored section is cooled from without and from within, and absence of the inner core avoids internal stresses set up by rapid cooling of an outer section on the inner of a solid shaft. This shape of section naturally is quenched vertically, with circulation of quenching medium, and penetration of the effect of heat treating is from the outer surface inward, and from the inner surface outward, so that the effect may meet in the section shown, refining the whole, and leaving no inner core in an untreated condition.

Locomotive axles, steamship propeller shafts, cannon of all calibres, are made in this manner to secure the necessary reliability together with the required strength and lighter weight.

Hollow boring is not an expensive operation; grief joints are regularly bored in considerably longer lengths and draw works shafts may be bored in the same machine and in the same manner.

Strength Advantage of Hollow Shaft

As to the advantage in strength and weight of hollow bored shafts compared with solid shafts, omitting the factor of unreliability, a four-inch hole through an eight-inch shaft, computed with the same stress values, makes a reduction of 6¼ per cent. in strength only. The small reduction is due to removal of metal from the center, where it is considerably less effective than at the circumference. The weight, however, is 25 per cent. less.

But, due to heat treatment, setting up a far stronger internal structure in the steel, the steel is placed in far better condition for strength when treated, and higher stress values are secured, so that the eight-inch shaft with a four-inch hole in it, made of higher carbon alloy steel, may then be taken at the strength value of its wall thickness, or two-inch section, approximately, and the bored shaft then is

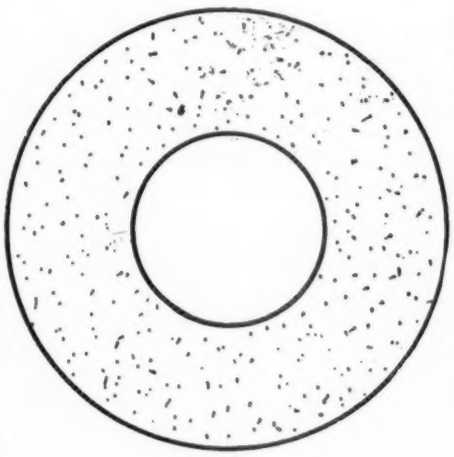


FIGURE 8

Section of a Hollow Bored Shaft, showing what can be expected toward even running treatment throughout

approximately 45 per cent. stronger than a solid eight-inch shaft, both made of the same steel analysis.

Destructive internal stresses are eliminated in the bored shaft, and a shaft of far greater reliability is secured.

On account of the low penetration of heat treating effect in the large diameter sections, a low carbon steel has shown fair qualities. Compared with high carbon alloys — not as high, of course, but fair reliability qualities—lower than bored shafts naturally, however.

Then, to use the alloy steels, with high physical qualities developed by treatment, means that higher stress values are obtained in the alloy steels, together with the far greater reliability secured by thorough heat treatment.

Process

The fibre stress allowable in calculations of the torsional strength of mild steel untreated shafts of this kind ranges up to 7500 pounds, while in the treated alloy steels, the stress value may be taken at two and one-half times as much with still a safety factor of four, and with greater reliability.

For years hollow boring of large diameter shafts has been the only answer in the search for reliability. The advantage further obtained by hollow boring is that in solid and hollow shafts of equal weight, per foot, the metal in the bored is distributed further from center where its value in resisting all kinds of stress is greater.

The manufacture of a hollow bored shaft, using a steel something like S. A. E. 3250, which has 0.45-0.55 carbon, 0.30-0.60 manganese, 1.50-2.00 nickel and 0.90-1.25 chromium, would be along the following lines:

After forging to rough dimensions, normalize at 1600 to 1700 F. In this heat, even though internal stresses are great, the temperature at which these stresses are set up is such that the metal is plastic enough to receive the internal stresses without damage, if the heating is carried on properly, beginning with a cold furnace and continuing on up to the required heat, slowly and uniformly, allowing one hour for each inch of section. It is in quenching that these internal stresses do the most damage.

The shaft would then be cooled slowly to atmospheric temperature.

Then, hollow bore, followed by again heating to above the critical temperature, which is between 1425 and 1475 F., followed by quenching in oil, lowering the shaft vertically into the bath, and circulating the quenching bath so as to cool the bore quickly, as well as the outer surface.

Then, as the shaft is hard and brittle, with low elongation and reduction, or low toughness, drawing at 1000 to 1200 F., removes brittleness and imparts to the shaft maximum toughness and strength.

The nickel content of S. A. E. 3250 steel reduces distortion and strains in quenching; chromium secures a greater hardness with slower cooling rate; nickel intensifies the effect of chromium and the carbon content is such that fine grain is secured. The nickel alloy also reduces distortion in quenching.

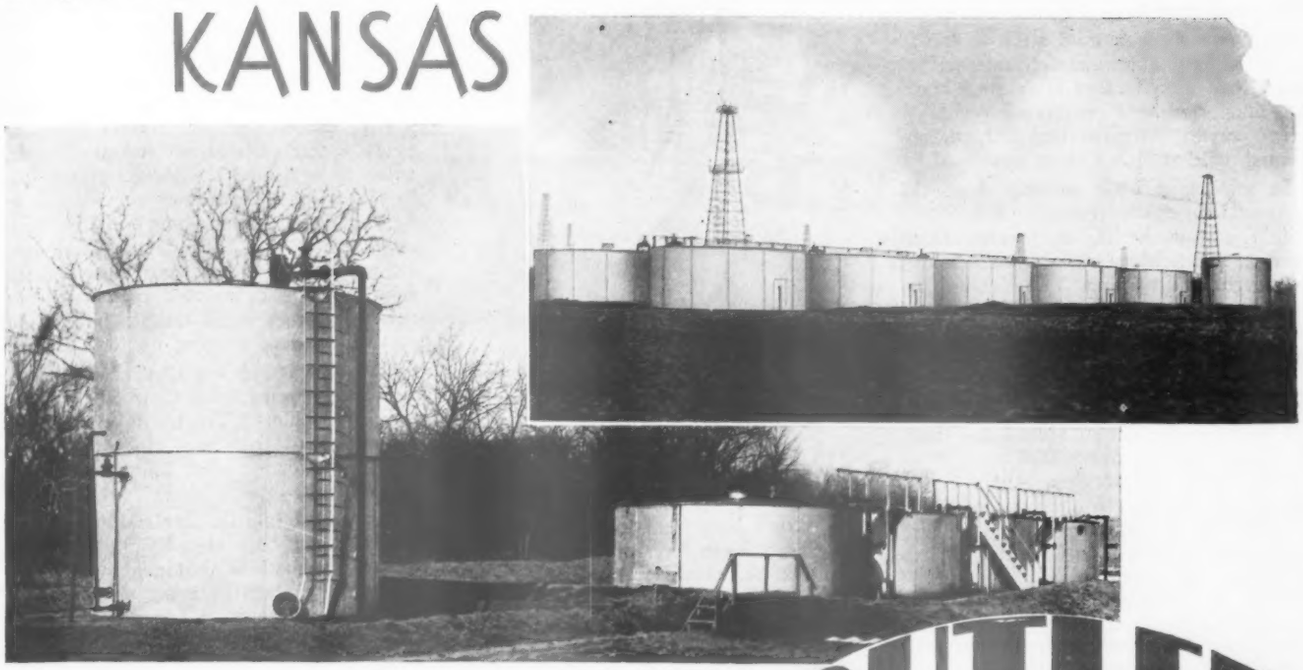
To quench such a long shaft sidewise into the bath, instead of vertically, would bend it in the quench and set up stresses that are eliminated in the vertical quench.

It has become general practice, in large diameter forgings, to require the boring of a hole through the center so that the inner portion may be inspected for cracks by using a bore searcher, which discloses cracks if there are any. Massive shaft forgings are peculiarly subject to transverse cracks — interior cracks — which may not be visible at the surface, but such that when the piece is machined, cutting away the outer layers may allow the shaft to fall in two.

Forging Qualities

Take next, for example, the drilling hook, Figure No. 9, or casing hook — a piece that when made of mild steel, will straighten out under a heavy pull. But, made of say a 45 carbon alloy steel, and then treated, the hook becomes very stiff

All Over KANSAS



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Gulf Coast Tank Company, 1612 Moffit Street, Houston, Luling and Refugio, Texas, V. P. Hughes, Prop.

Thomas Moran at Oil City, Shreveport and Georgetown, Louisiana.

M. A. Trimmer, at Blackwell and Lovell, Oklahoma.

and rigid with far greater strength against bending, and, while it will bend if the load is too great for the size of hook, it will not break off suddenly as a badly made mild steel hook sometimes does.

By comparison, a mild steel hook will safely support approximately one-half as much load as a treated alloy steel hook. The alloy steel hook possesses a reliability when correctly treated that forged, untreated, mild steel has never possessed.

In making a hook of any steel, the forging temperature must be held down within certain limits, to prevent overheating, and held up above certain limits, to prevent cold forging. The forging furnace temperature must be under control with pyrometers to insure that the steel will be heated and forged correctly.

The size of hammer has considerable to do with forging work. If the hammer is too light for the size of billet being used, the billet must be overheated to make it plastic enough for forging. Again, if the hammer is too large for the size of billet, forging can be continued after the piece has cooled too much, so for definite sizes of billets, the hammer must be of suitable weight. An eight-inch billet of alloy steel requires a hammer weighing from 4000 to 5000 pounds and a six-inch billet may be forged correctly under a 2500-pound hammer.

Forging qualities of steels differ with the carbon and alloy content. A low tungsten steel with 50 carbon, is "rubbery" under the hammer and even a larger hammer is required proportionately for this class of steel. Chromium adds toughness also, which requires additional hammer weight over that necessary for low carbon mild steel.

Since all hooks must be forged under a hammer, these details of steel, of forging and of treatment are given with the idea of better hooks being made — hooks that can be relied upon to the ultimate strength of the derrick, every time, without fail. Size alone will not afford reliability. Reliability must be built into the steel when it is made and brought out when the piece is forged and heat treated.

Other hooks, such as sucker rod hooks, crane hooks, C-links, casing hooks — in all designs of which a cantilever effect is present — show an approximate increase of 100 per cent. in lifting capacity without failure in alloy steel treated hooks, compared with untreated mild steel hooks of the same design and size.

Standard Tool Bits

Pins and shanks are subject to great shock in standard tool bits. The cutting edges and particularly the gauging edge must be resistant to wear and must not break or chip in the hole.

Treatment of such pieces would be to forge at 1900 to 2200 F., normalize by heating to above Ac; reheat to above Ac; quench in oil, if the bit is small, or in water, if large and the carbon content not too great, followed by drawing, or tempering at 1000 to 1200 F., which conditions the whole bit for its work, making it very strong and reliable.

Threads now may be machined, for the steel is not hard, and its fine grain permits very smooth threading, and the edges may then be dressed and hardened.

FIGURE 9
Wigle Spring Hook, showing the cantilever load supporting means

Subsequently, the pin should not be again heated to any greater temperature than a low red. To raise it above the upper critical temperature and then cool it means that the fine grain previously imparted to the pin will be broken up, weakening the pin.

Fish Tail Bits

Let us consider fish tail bits next. The main requirement is resistance to abrasion, or cutting durability. Coupled with this is the requirement that the shank, blade and point must not break in service. In addition, the blade must be forged repeatedly in dressing without the steel losing the required qualities. This is a large order, along the line of requirements.

While a carbon steel can be made just as hard as any other steel, durability of plain carbon steel is not anywhere near as great as that of alloy steels. Neither is the strength as high.

When the heavy weight of drill pipe is required on top of a fish tail bit to make it take hold and cut in gritty formations, such as sand rock, or gritty shale or slate, heat generated will elevate the temperature of the cutting edge to 500 and 600 degrees, which is amply high enough to draw the temper from and soften the carbon steels. When drilling in gumbo, the cutting edges bury in the formation, which prevents circulation from reaching the edges, which get hot and lose hardness.

Many tests for hardness of fish tail bits, made before running in the hole and after running, show that hardness is quite readily lost. Some bits lose as much as 200 Brinell numbers in this manner, indicating, from surface tests to produce the same softening, that the temperatures generated in drilling do run upto 600°F.

This adds the further requirement for fish tail bit steel, that the steel must possess red hardness, or the quality of remaining hard at the temperatures generated while drilling.

Temperature Effects on Bits

Red hardness is imparted to steel by tungsten and molybdenum — molybdenum being required in a lesser percentage than tungsten to secure the same red hardness.

The high tungsten steels — those with tungsten ranging from 12 per cent. to 14 per cent., forming the high speed steel group, cannot, at the present time, be made or treated to secure sufficient impact value to withstand the shocks of drilling. Hence, after surface tests showed this to be true, the writer knows of no high speed steels that have as yet been used for making fish tail bits, although the writer has used inserted cutters of this material. High speed steel remains hard at temperatures ranging up to 900°F.

The high speed steels are very expensive, too, ranging from 65 to 80 cents per pound in billets. Treatment of them is more difficult than any other grades of steel, due to the high temperatures required.

But, a low tungsten steel, with moderate red hardness has been found useful in drilling formations that generate heat — this steel having three per cent. to four per cent. of tungsten for producing red hardness to a lesser extent than the high tungsten steels. Even this grade of steel is rather difficult to handle, for its hardening temperature is 1750 F., which is not so good for pots in the molten bath furnace type of treating equipment.

But the very excellent results obtained with this latter grade of steel show that, particularly in deep holes, where formations are gritty but too soft for rock bits, it is of great value in reducing the number of round trips in making the well. In several cases, where the formations have been massive, and of about the same texture, this class of steel has shown from two to five times as much hole per day as could be obtained with hard faced bits, seven to eight times as much as could be obtained with the usual type of 30 to 35 carbon bit steel.

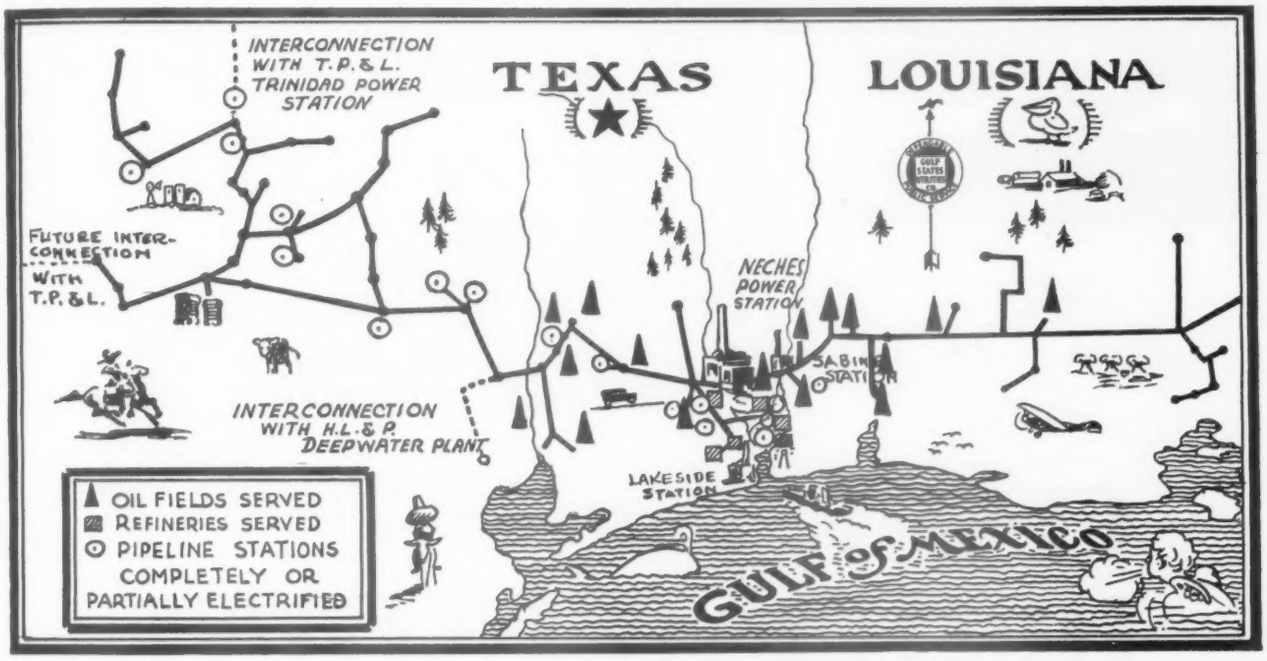
By whatever method heated, a tapered steel section, or an uneven section is not easy to control while being heated and while being quenched.

In a flame heated furnace, the flame temperature exceeds 4000°F., and when flame contacts the tapered end of a fish tail bit, troubles then start. The thin edge heats more quickly than the thicker upper blade so that, while the upper blade is being brought up to heat, the edge overheats. Overheated steel is of no further value for cutting purposes. Neither is it possible to heat a blade uniformly in a flame heated furnace; tests show variation in hardness of 300 Brinell numbers between the two bit points, due to uneven heating. The harder point breaks off, while the softer point does not cut.

In Figure No. 10 is shown an average field furnace, with fish tail bits being heated. The blast of flame comes into the furnace from one side at the top, travels over the top, strikes the opposite side, then travels down, striking the bits. Uneven heating is easily seen.

(Continued on page 70)

ELECTRIC POWER PREFERRED



The use of Central Station Electric Power has steadily increased and a number of extensions to the present system are planned to serve the industry even more completely in this territory.

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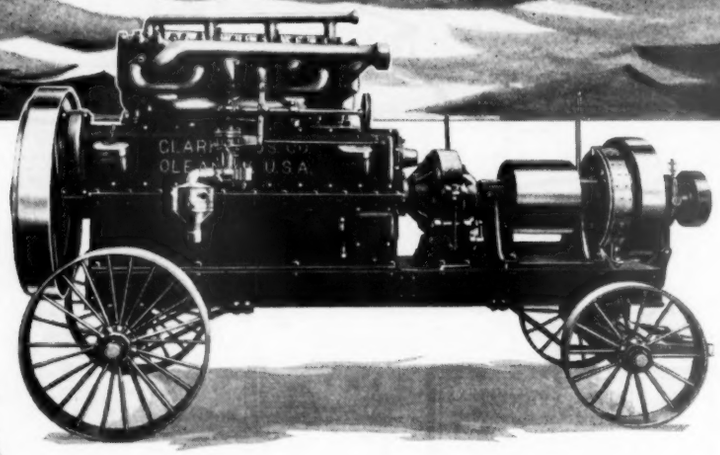

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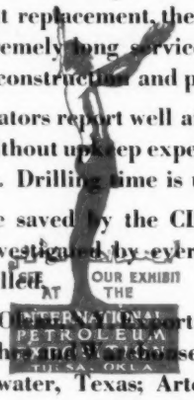

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PIPE LINE PROBLEMS *Will Come* Before Engineers

Centrifugal versus reciprocating pumps for gathering systems will be subject at Galveston meeting

DALLAS.—An interesting two-day program, including various technical papers and reports of committees, followed by a golf tournament and a banquet at the Galveston Country Club, has been arranged for the regular fall meeting of the Texas-Louisiana-Arkansas district of the Division of Development and Production Engineering of the American Petroleum Institute to be held at the Galvez Hotel, Galveston, on September 5 and 6.

The program includes subjects of particular interest to oil pipe line operators and officials. Under that heading will be a paper on the centrifugal versus reciprocating pumps for gathering oil by D. H. Levy of the Magnolia Petroleum Company, Dallas. Progress in the study of corrosion problems on oil pipe lines will be discussed by Dr. Gordon N. Scott, who is a Research Associate of the American Petroleum Institute with the United States Bureau of Standards.

Two papers on drilling problems are included in the program, one being on "Hard-faced Rotary Drill Bits." It has become common practice to face drilling bits with special alloy steels and the paper in question, prepared by W. A. Wissler of the Union Carbide Company of New York and C. W. Metzger of the Haynes Stellite Company, Houston, discusses the metallurgical aspects of such drilling bits. The second paper on drilling problems is a report of the district committee on drilling practice, Melbert Schwarz, Rio Bravo Oil Company, Houston, chairman, entitled, "Drilling Vertical Holes", which subject has received wide-spread attention throughout the Mid-Continent, Gulf and Pacific Coast regions during the past years.

Four papers are devoted to production problems. S. W. Oberg, chief engineer of the Humble Oil & Refining Company, Houston, will discuss methods of salt water disposal, which is becoming an increasingly important problem in the oil industry. W. C. Shutts and B. L. Moore of the Humble Oil & Refining Company, Houston, will discuss the weighing and counterbalancing of pumping wells. The care of sucker rods will be discussed by R. H. Reese, of the Atlantic Oil Producing Company, Dallas, while the district committee on production practice, W. W. Scott, Humble Oil Company of Houston, chairman, will have a report on "Repressuring Practice".

Electric power in drilling and production, a subject of major importance to producers, will be discussed by E. Stanley Durward of Shell Petroleum Corporation of Dallas, who will treat the subject from the standpoint of a standardized electric power rate.

Hotel reservations will be made direct, and a registration fee of $2.50 will be charged to defray expenses of reporting and issuing advance copies of papers presented. Those attending will register at the entrance to the Main Ball Room. Registration is necessary to obtain advance copies of papers.

Following is the final program for the Galveston meeting:

MORNING SESSION

September 5, 9:30 a. m.

1. "Centrifugal vs. Reciprocating Pumps for Gathering Oil."—D. H. Levy, Magnolia Petroleum Company, Dallas.
2. "Problems and Progress in the Protection of Underground Pipe Lines Against Corrosion."—Dr. Gordon H. Scott, A. P. I. Research Associate with U. S. Bureau of Standards, Dallas.
3. "Metallurgy of Hard-faced Rotary Drill Bits".—W. A. Wissler, research engineer, Union Carbide and Carbon Research Laboratory, Long Island City, N. Y., and C. W. Metzger, sales engineer, Haynes Stellite Company, Houston.

AFTERNOON SESSION

September 5, 1:30 p. m.

1. "Methods of Waste Water Disposal".—S. W. Oberg, Humble Oil & Refining Company, Houston.
2. "Weighing and Counterbalancing Wells".—W. C. Shutts, petroleum engineer, Humble Oil & Refining Company, Houston. and B. L. Moore, electric engineer, Humble Oil & Refining Company, Houston.
3. "Proper Care of Sucker Rods".—R. H. Reese, engineer, Atlantic Oil Producing Company, Dallas.

EVENING SESSION

September 5, 8 p. m.—Main Ball Room

Meeting of district officers and all officers and members of district committees.

MORNING SESSION

September 6, 9:30 a. m.

1. "Standardization of Electric Power Rate Structure for Drilling and Production".—E. Stanley Durward, Shell Petroleum Corporation, Dallas.
2. "Summary of Repressuring Practice".—District committees on production practice, W. W. Scott, chairman.
3. "Drilling Vertical Holes".—District committee on drilling practice, Melbert Schwarz, chairman.

AFTERNOON SESSION

September 6.

All entertainment features have been arranged by the Houston Wildcat Committee of the Mid-Continent Oil and Gas Association, with W. L. Childs and E. R. Ames in charge.

A golf tournament has been arranged at the Galveston Country Club, starting at 1:30 p. m.; suitable prizes have been arranged; those desiring to enter the tournament should so indicate when registering for the meeting. A deposit of $2.00 will be required; this will include the green fee.

EVENING SESSION

September 6, 7:00 p. m.

Banquet at the Galveston Country Club; $2.00 per plate; those desiring to attend should so indicate when registering for the meeting. Golf prizes will be awarded, and other entertainment provided.

Houston.—The Texas Pipe Line Company has completed its 51-mile six-inch line extending from the area opened for production by The Texas Company's Lynch 1, in Central Lea County, New Mexico, to the main line at Jal.

The Texas Company's Lynch 1 is producing around 500 barrels daily. The second producer completed in the area was Henderson, Dexter et al's well, completed the latter part of July, 1929. It is producing around 100 barrels daily and the crude will be taken by The Texas Pipe Line Company's new line.

SMITH Welding

SMITHWELDED

The NEW WAY

If you have not seen the book that deals with the manufacture and advantages of SMITH Welded Oil and Gas Line Pipe, send today for your copy of The New Way.

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LINE PIPE

METHODS *for* SEPARATING OIL *and* WATER *Before Using Chemicals*

Field men agree that economic practice would dictate that some means be employed before applying chemicals

By WARREN BAKER
Staff Representative

TONKAWA.—It seemed to be the general opinion of those present at the Tonkawa Chapter meeting of the A. P. I. Division of Development and Production Engineering on the night of August 21 that it was economical to use some method to break up the oil and water particles before treating the oil with chemicals. Several methods of installations for this purpose were brought out. Due to the fact that treating is not widespread in the Tonkawa area the discussion of the various questions that came up were not entered into widely, but C. M. Copeland of the Comar Oil Company more than made up for this from his experience with treating oils.

Various chemicals work best on different oils and different emulsion causes and types, but it cannot be determined satisfactorily by laboratory tests just what chemical will work best, in the opinion of E. H. Griswold, Continental Oil Company. Actual field experiments with the various chemicals now offered is necessary to determine which ones work best on any particular well.

There are two natures of emulsion, stated C. M. Copeland. One in which the water is suspended in oil and where the oil is suspended in the water. It is necessary to have both oil and water present to cause emulsion, then there must be some agitating factor such as gas, or improper equipment, like rod slipping, or some loose fit.

There are three types of treating, namely, heating, chemical treating and electric treating. Heat was probably the first used. When first put in practice the sun was used as the heater. At Smackover, Arkansas, where Mr. Copeland had much experience with treating oil, it was the practice to send several hundred thousand barrels of oil into pits and after setting in the sun the top could be skimmed off and used as pipe line oil. The lower fluid level in the pits is drawn, the higher the percentage of basic sediment, until near the bottom it was practically all basic sediment.

The use of the sun as a means of treating cut oil was followed by artificial heating. Several million barrels of oil were saved by this method at Smackover. Among the first practices along this line was the employment of vats about 50 by 75 feet long, which when heated removed the water. This method was never very popular since it also caused the loss of the gasoline content, and in some cases knocked the gravity of the oil down three points.

This was later changed with some refinements, continued Mr. Copeland. The oil was run over heated coils in the vats. The use of electric dehydrators as a means of breaking up the mixture of oil and water was also mentioned. In this method the fluid passes through a series of electric dehydrators, with the breaking up of the oil and water, the weight of the water carries it to the bottom as the particles become larger, while the oil rises to the top of the tank. The pipe line oil is then taken off the top.

Another method is the use of the Brady process, which is method of using Tret-o-lite. A one-inch line is laid to each well from a tank. At each tank large drums are set up. It is necessary to carry large back pressure on the wells. The oil is treated between the casing and tubing.

Copeland explained a home-made treating product of his own, now in use on many of the Shell Petroleum Corporation's properties. It consists of a 1000-barrel tank with a flume running from the top to the bottom in the center. This is kept partly filled with hot salt water. The oil enters the top of the flume where it is carried to the bottom of the tanks, as it rises to the top through the water in the tank the water mixed with oil settles out and is then carried off the top. Sometimes it is necessary to rig up a furnace to heat the oil as it enters the flume to help the breaking up process but in other cases the oil itself has sufficient heat.

Discussion brought out that it was imperative to save as much of the gasoline content as possible and that the closer to the well that the chemicals were introduced the more successful was the operation likely to be.

One method of cutting the water from the oil to a certain extent is the use of back pressure. Sometimes, according to E. H. Griswold, the water can be separated where back pressure is used by employing a high pressure drip.

Harold Decker of Tidal Oil Company, Tulsa, told of an engineer setting a lubricator upside down. He let the pressure force the chemical into the line, where it raised through the water, it being lighter than the water. This was quite successful.

In West Texas excelsior tanks are used to a large extent, stated E. O. Bennett, Continental Oil Company. These tanks consist of a floor across the top, with a lot of excelsior beneath. The fluid must percolate upwards through this excelsior, breaking up the oil and water.

The next meeting of the chapter at Tonkawa will discuss "Repressuring." This should make an excellent topic as considerable repressuring is being done at Tonkawa. Carl Young, Director of the Mid-Continent Division of the A. P. I. Division of Development and Production Engineering will be at Drumright, according to tentative arrangements, on the previous night and he will be asked to attend the Tonkawa meeting and address them on "Standardization."

Exposition Is to Have Welding Contest

Tulsa.—One of the attractions of the International Petroleum Exposition and Congress this year will be a pipe line welding contest, which will take place October 11, one day before the exposition closes. This affair is being worked out by the safety and contest committee, of which D. J. Wallace is chairman.

The contest will be open to welders of the whole petroleum industry. Rules of the contest are as follows:

Size of pipe to be six-inch standard, beveled to 45 degrees with Wagner cutting machine.

Type of weld to be ripple, butt, rolling.

Pipe will be tacked for four welds on each firing line before contest starts.

Pipe will be rolled to conform to the speed of the fastest welder making a good weld.

The following torches, hose and regulator will be furnished: Oxweld Presto weld, Airco D. B., Meco and Victor.

Standard size welding rods will be furnished.

Welders on registration will be furnished with a number which will be stamped on his weld when it is completed. The weld will then be sent out and turned over to the judges, who will determine the winners on the following basis: width of weld (should be approximately 7/8), proper penetration, reinforcement (should be approximately 5/32), speed, general appearance of weld, handling equipment.

XUM

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Gasoline Market Firm With Strong Demand; New Peak Production

ANOTHER increase of 24,690 barrels in production established another all-time record for crude production for the week ending August 24. Nearly half of this increase was in Texas, while all important areas were up; only North Louisiana and Arkansas, with negligible losses, showing reduced totals. The increase in California was 6100 barrels and in Oklahoma-Kansas, 3750 barrels.

Alleviation of the Texas Panhandle situation is seen in an agreement of Gray County operators to refrain from drilling in any more wells until October 1, with the exception of those drilling as offsets to producing wells. It was also agreed that none of the shallow pumping wells would be deepened in an attempt to increase their output. This action should immediately check Gray County's production rise.

A decided improvement has been manifested this week in the North Texas market of U. S. gasoline. Heavy shipments and continued good weather have given the market a firm tone. Price for the commodity has gone from 6½ cents to 7⅜ cents. In some cases it is bringing 7½ cents. However, it is felt that U. S. motor gasoline should bring eight cents per gallon.

Fuel oil, 24-26 gravity, has strengthened in the North Texas district during the week, the price ranging from 60 to 70 cents per barrel at Wichita Falls now. It is believed this quotation will hold firm, if it is not raised.

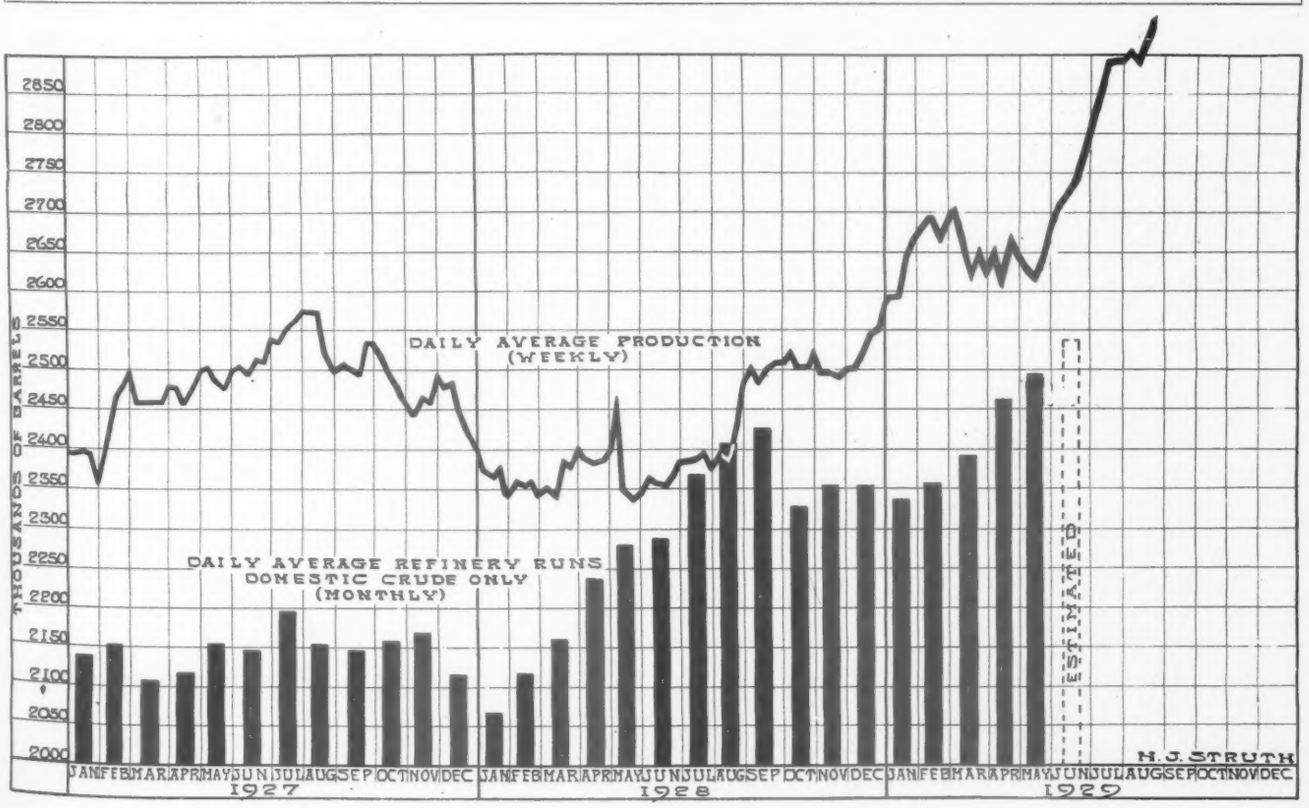
Opinions are expressed in the North Texas district that the Mid-Continent need not expect a cut in crude price schedules to result from the relation between supply and demand in its own territory. It rather places likelihood of any revision upon the behavior of California. In addition, it is pointed out that a cut in crude for West Texas might entail the opening of independent refineries there which have been shut down. At existing prices these shut down plants can not operate at a profit, should prices be lowered they might.

Oklahoma-Kansas

Both the Oklahoma-Kansas crude and refined markets were marking time during the past week. Oklahoma crude oil production should show some increase during the remainder of the year, however, it will not be until the first part of 1930 that any big upward trend in production should be seen. Oklahoma City pool is the most

(Continued on page 60)

DOMESTIC PRODUCTION AND REFINERY RUNS



United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1928	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,800
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
December	710,600	97,200	603,700	135,050	37,300	81,350	113,450	74,600	697,850	2,551,100	79,084,400
1929											
January	722,550	97,150	632,500	136,750	36,650	78,600	111,950	73,200	747,250	2,635,600	81,703,600
February	714,800	95,950	643,350	142,300	35,700	74,600	108,550	71,750	797,800	2,684,800	75,204,400
March	666,500	95,500	662,500	147,750	35,800	74,250	108,850	70,400	786,000	2,647,400	82,068,350
April	665,600	106,400	650,100	154,550	35,550	72,900	110,850	69,400	781,350	2,646,700	79,402,100
May	679,650	115,400	651,100	150,350	35,350	71,500	114,150	72,850	749,250	2,639,600	81,827,600
June	685,200	120,750	688,200	147,500	35,700	70,050	116,750	72,000	827,200	2,763,400	82,902,250
July 6	717,800	122,400	696,100	147,250	35,050	69,250	119,100	71,850	878,600	2,857,400	20,001,800
July 13	720,900	121,300	715,200	151,150	35,700	69,150	120,900	74,850	882,600	2,891,750	20,242,250
July 20	717,700	125,000	723,800	146,500	36,150	68,650	122,000	73,850	880,300	2,893,950	20,257,650
July 27	726,500	126,700	729,050	145,400	36,100	68,200	123,800	75,300	865,600	2,896,650	20,276,550
August 3	730,050	126,650	733,600	151,900	35,700	67,800	125,100	75,500	862,300	2,908,600	20,360,200
August 10	724,400	128,200	737,950	148,850	36,000	67,300	125,100	75,000	853,200	2,896,000	20,272,000
August 17	724,000	127,300	748,150	152,200	36,650	67,150	126,300	78,000	881,800	2,941,660	20,591,620
August 24	727,000	128,650	758,200	154,600	36,350	66,700	127,500	79,100	887,900	2,966,350	20,764,450
Increase	3,000	1,350	10,050	2,400	.....	.....	1,200	1,100	6,100	24,690	172,830
Decrease	.....	.....	.....	.....	300	450	.....	.....	.....	.....	.....

TEXAS
(Outside Gulf Coast)

PANHANDLE DISTRICT

	Aug. 24	Aug. 17
Carson County	9,350	9,200
Gray County	97,300	83,500
Hutchinson County	25,400	25,300
Wheeler County	700	800
Others	1,100	1,200
Total	133,850	120,000

NORTH TEXAS

Archer County	19,700	19,500
Burkburnett	8,750	8,600
Electra	11,500	11,450
Iowa Park-KMA	4,400	4,300
Montague and Cooke Cos.	17,850	17,450
Wilbarger	32,500	31,200
Others	800	800
Total	95,500	93,300

WEST CENTRAL TEXAS

Brown County	8,200	7,700
Callahan County	4,100	4,050
Coleman County	7,300	6,250
Eastland-Desdemona	7,400	7,300
Jack County	3,750	3,500
Palo Pinto County	400	400
Shackelford County	10,950	11,000
Stephens County	6,700	6,700
Throckmorton County	700	700
Young County	8,300	9,450
Others	700	700
Total	58,500	57,750

WEST TEXAS

Crane-Upton Counties	47,700	47,100
Crockett County	1,900	2,100
Howard County	38,100	38,500
Jones County	3,300	3,200
Mitchell-Scurry Cos.	2,400	2,700
Pecos County	130,200	130,300
Reagan County	17,400	17,500
Winkler County	131,000	141,000
Others	2,200	1,400
Total	374,200	383,800

EAST CENTRAL TEXAS

Boggy Creek	2,700	2,700
Corsicana-Powell	7,500	7,150
Currie	450	400
Mexia	5,650	5,150
Nigger Creek	350	300
Richland	300	350
Wortham	1,000	950
Total	17,950	17,000

SOUTHWEST TEXAS

Dale	500	350
Laredo District	10,250	10,500
Luling	11,450	11,100
Lytton Springs	1,000	950
Somerset	1,900	1,250
Salt Flat	46,500	47,200
Others	6,600	4,950
Total	78,200	76,300
T'tl Tex. (Outside Gulf Coast)	758,200	748,150

TEXAS GULF COAST

Barbers Hill	19,300	18,000
Batson	1,350	1,350
Big Creek	4,000	4,300
Blue Ridge	2,700	2,700
Boling	1,400	1,400
Damon Mound	600	600
Goose Creek	5,900	5,500
Hull	8,400	7,400
Humble	8,650	5,400
Orange County	2,800	2,800
Pierce Junction	13,100	15,350
Raccoon Bend	8,000	8,300
Saratoga	1,000	900
Sour Lake	2,650	2,700
South Liberty	5,000	5,400
Spindle Top	24,450	25,800
Sugar Land	12,500	11,650
West Columbia	6,300	6,350
Washington Co.	2,050	2,200
Others	3,850	4,000
Total	134,000	132,100
Texas Total	892,200	880,250

OKLAHOMA

Asher	11,950	10,500
Carr City	11,950	12,600
Logan County	19,100	19,500
Braman	4,050	3,950
Blackwell	3,750	3,750
Hubbard	1,800	1,800
Thomas	900	850
Tonkawa	9,100	9,150
Garber	5,240	5,750
Burbank	18,750	18,850
Osage (outside Burbank)	26,100	26,300
Cushing	18,250	18,500
Yale Jennings	7,000	7,050
Davenport	1,400	1,400
Bristow Slick	21,000	20,500
North Okmulgee	12,250	12,650
Lyons Deaner	8,450	8,300
Cromwell	8,110	8,000
Papoose	3,300	3,250
Wewoka	4,550	4,650
Seminole	32,650	33,100
East Seminole	6,200	5,400
Bowlegs	33,000	32,650
Searight	11,950	12,200
Little River	77,050	77,700
Earlsboro	90,850	86,650
Duncan District	7,450	7,500
Graham	4,300	4,300
Fox	1,400	1,400
Healdton	13,100	13,100
Hewitt	7,800	7,850
Scholem Alechem	12,600	12,700
Pearson	1,200	1,150
St. Louis	69,950	71,300
Allen	24,050	24,450
Maud	13,400	13,700
Mission	25,800	26,350
Oklahoma City	36,600	34,700
Others	61,000	60,500
Total	727,350	724,000

CALIFORNIA

Santa Fe Springs	293,000	289,000
Long Beach	170,000	168,000
Huntington Beach	44,000	44,000
Torrance	12,600	12,600
Dominguez	9,500	9,500
Rosecrans	6,500	6,500
Inglewood	24,000	24,000
Midway-Sunset	68,000	68,000
Ventura Avenue	63,000	60,000
Seal Beach	46,000	47,000
Elwood-Goleta	21,000	22,800
Kettleman Hills	4,000	4,000
Others	126,300	126,400
Total	887,900	881,800

KANSAS

Greenwood County	20,850	20,600
Florence-Covert	950	950
Peabody-Ebling	3,450	3,400
Eldorado-Towanda	13,050	13,000
Augusta-Fox Bush	3,050	3,100
Rainbow Bend	1,050	1,050
Russell	3,100	3,200
Churchill	7,350	7,100
Oxford	4,350	4,100
Sedgewick	36,450	36,000
Others	35,000	34,800
Total	128,650	127,300

NORTH LOUISIANA

	Aug. 24	Aug. 17
Homer	3,900	3,900
Haynesville	4,900	5,000
Caddo Light	8,900	8,900
Caddo Heavy	3,300	3,350
DeSoto-Red River	3,850	3,600
Elm Grove	550	550
Bellevue	600	650
Cotton Valley	2,400	2,400
Urania	6,450	6,300
Pleasant Hill	1,300	1,750
Others	200	250
Totals North Louisiana	36,350	36,650

LOUISIANA GULF COAST

Bayou Boullion	200	200
East Hackberry	2,500	2,300
Hackberry	2,300	2,000
Edgerly	950	1,300
Evangeline	2,100	2,300
Lockport	3,400	3,400
Sorrento	150	200
Sulphur	3,050	3,150
Sweet Lake	50	50
Vinton	4,500	4,200
Others	1,400	1,000
Total Louisiana Gulf Coast	20,600	20,100
Louisiana total	56,950	56,750

ARKANSAS

El Dorado	4,600	4,650
Champagnolle	6,600	6,800
Smackover Light	6,050	6,050
Smackover Heavy	46,100	45,300
Stephens	1,000	1,000
Nevada	1,050	1,000
Lisbon	1,200	1,250
Others	100	100
Total	66,700	67,150

MOUNTAIN STATES

WYOMING

Salt Creek	33,300	32,600
Grass Creek	2,250	2,300
Elk Basin	800	750
Big Muddy	2,200	2,300
Lost Soldier	4,000	3,950
Rock River	2,500	2,400
Lance Creek	200	200
Oregon Basin	5,950	5,900
La Barge	2,300	2,500
Others	4,550	4,150
Total	58,050	57,050

MONTANA

Cat Creek	1,400	1,450
Sunburst	6,950	6,950
Pondera	3,050	3,050
Others	100	100
Total	11,500	11,550

COLORADO

Moffats (Craig)	1,250	1,200
Fort Collins	2,500	2,500
Florence	900	900
Others	2,350	2,250
Total	7,000	6,850

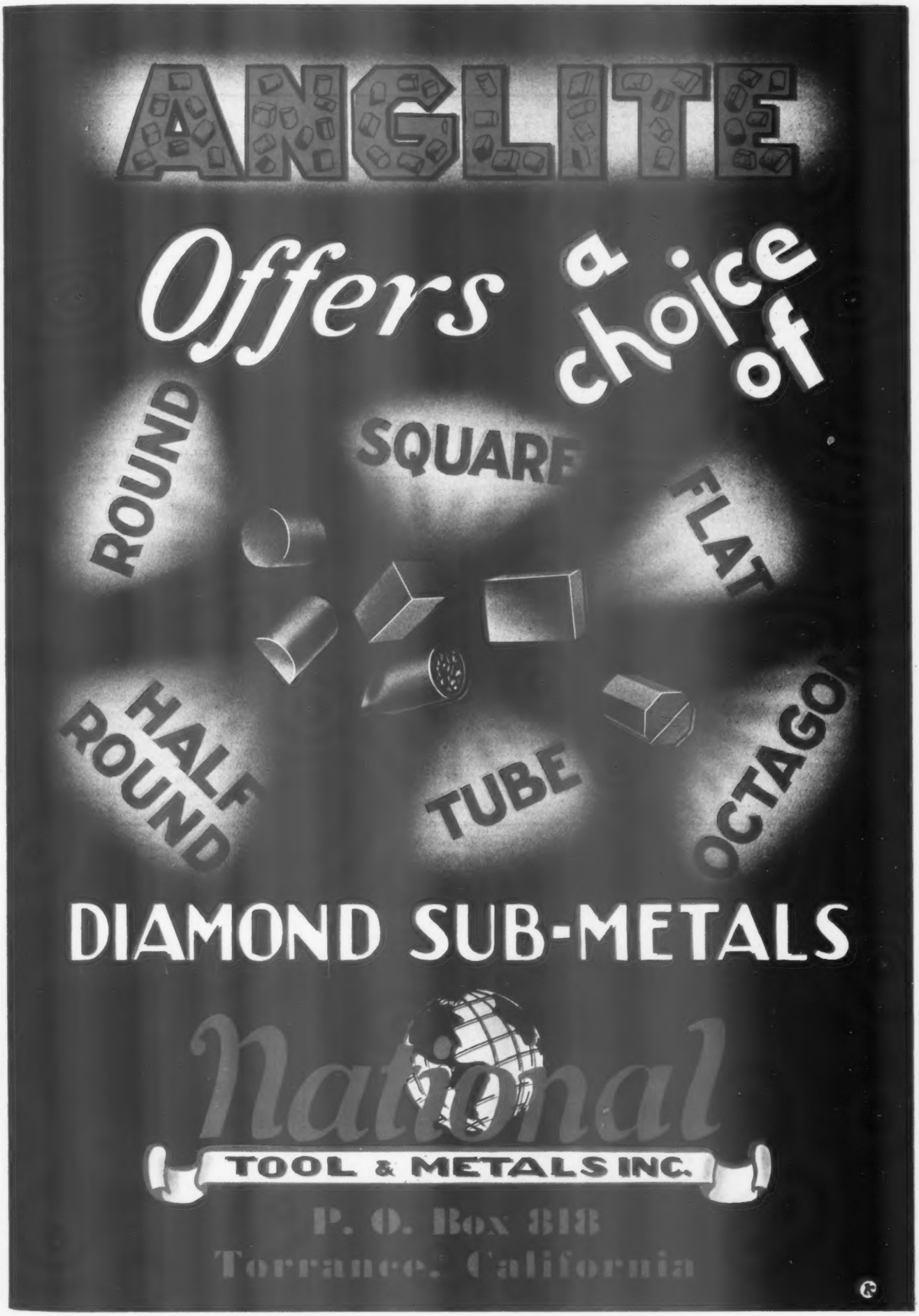
NEW MEXICO

Artesia	850	850
Hogback	100	100
Rattlesnake	1,200	1,150
Others	400	450
Total	2,550	2,550
Total Mountain States	79,100	78,000

EASTERN STATES
(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.) 127,500 126,300

PRODUCTION SUMMARY

East of Rockies	...	1,981,860
Total United States	2,966,350	2,941,660


ANGLITE
Offers a choice of
ROUND
SQUARE
FLAT
HALF ROUND
TUBE
OCTAGON
DIAMOND SUB-METALS
National
TOOL & METALS INC.
P. O. Box 818
Torrance, California

CRUDE OIL PRICE QUOTATIONS

Revised August 27, 1929

EASTERN STATES
(Effective August 16, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.30
Bradford District Oil in National Transit Lines (Pennsylvania)	3.30
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.30
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.30
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.20
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.35
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.75
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.50
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	60
Keister (Pennsylvania)	1.20

CENTRAL STATES
(Effective May 21, 1929)
Posted by Ohio Oil Co.

Illinois	1.75
Indiana	1.57
Lima	1.80
Plymouth	1.28
Princeton	1.75
Waterloo	1.25
Wooster	1.90

WESTERN KENTUCKY

All grades	1.83

MID-CONTINENT
(Effective May 21, 1929)
Magnolia Petroleum Company

Under 26	.70
26 to 26.9 gravity	.75
27 to 27.9 gravity	.85
28 to 28.9 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.15
32 to 32.9 gravity	1.25

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

MID-CONTINENT
(Effective May 20, 1929)
Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company

25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

PANHANDLE
(Effective May 20, 1929)
GRAY COUNTY
(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company

Below 29 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.00
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.10
33 to 33.9 gravity	1.15
34 to 34.9 gravity	1.20
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.30
37 to 37.9 gravity	1.35
38 to 38.9 gravity	1.40
39 to 39.9 gravity	1.45
40 to 40.9 gravity	1.50
41 to 41.9 gravity	1.55
42 to 42.9 gravity	1.60
43 to 43.9 gravity	1.65
44 and above	1.70

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.90
30 to 30.9 gravity	.95
31 to 31.9 gravity	1.00
32 to 32.9 gravity	1.05
33 to 33.9 gravity	1.10
34 to 34.9 gravity	1.15
35 to 35.9 gravity	1.20
36 to 36.9 gravity	1.25
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.35
39 to 39.9 gravity	1.40
40 to 40.9 gravity	1.45
41 to 41.9 gravity	1.50
42 to 42.9 gravity	1.55
43 to 43.9 gravity	1.60
44 and above	1.65

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.90
32 to 32.9 gravity	.95
33 to 33.9 gravity	1.00
34 to 34.9 gravity	1.05
35 to 35.9 gravity	1.10
36 to 36.9 gravity	1.15
37 to 37.9 gravity	1.20
38 to 38.9 gravity	1.25
39 to 39.9 gravity	1.30
40 to 40.9 gravity	1.35
41 to 41.9 gravity	1.40
42 to 42.9 gravity	1.45
43 to 43.9 gravity	1.50
44 and above	1.55

SOMERSET
Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

CALIFORNIA CRUDE OIL PRICES AT THE WELL
(EFFECTIVE JANUARY 18, 1929)

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity	Ventura*	Signal Hill	Alamitos Heights-Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwoodt Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elks Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14-9	$ .85	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ ..	$ .70	$ .70	$ .70	$ .70	$ .70	..	$ .50	$ .50	$ .50	$ .50	$ .50	$ .50
15-15-9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
16-16-9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
17-17-9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
18-18-9	.85	.75	.75	.75	.75	.75	..	..	.75	.75	.75	.70	.75	..	.50	.56	.56	.56	.56	.56
19-19-9	.85	.80	.80	.80	.80	.80	..	..	.80	.80	.80	.75	.80	..	.50	.62	.62	.62	.62	.62
20-20-9	.85	.85	.85	.85	.85	.85	..	..	.85	.85	.84	.80	.84	..	..	.68	.68	.68	.68	.68
21-21-9	.86	.89	.89	.89	.89	.89	..	..	.89	.89	.88	.85	.88	.89	..	.74	.74	.74	.74	.74
22-22-9	.87	.93	.93	.93	.93	.93	..	..	.93	.93	.91	.90	.91	.92	..	.80	.80	.80	.80	80
23-23-9	.90	.97	.97	.97	.97	.97	..	..	.97	.97	..	.95	.94	.95	..	.85	.85	.85	.85	.85
24-24-9	.94	1.01	1.01	1.01	1.01	1.01	1.01	..	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25-9	.98	1.05	1.05	1.05	1.05	1.05	1.05	..	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26-9	1.02	1.09	1.09	1.09	1.09	1.09	1.09	..	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27-9	1.06	1.13	1.13	1.13	1.13	1.13	1.13	..	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28-9	1.10	1.17	1.17	1.17	1.17	1.17	1.17	..	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29-9	1.14	1.21	1.21	1.21	..	1.21	1.21	..	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30-9	1.18	1.25	1.25	1.25	..	1.25	1.25	..	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31-9	1.23	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32-0	1.28	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
32-32-9	..	..	..	..	..	..	1.41	..	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34-9	..	..	..	..	..	..	1.47	1.16	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35-9	..	..	..	..	..	..	1.53	1.22	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36-9	..	..	..	..	..	..	1.59	1.28	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37-9	..	..	..	..	..	..	1.65	1.34	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38-9	..	..	..	..	..	..	1.71	1.40	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39-9	..	..	..	..	..	..	1.77	1.46	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40-9	..	..	..	..	..	..	1.83	1.52	..	..	..	..	..	..	..	..	..	..	..	..
41-41-9	..	..	..	..	..	..	1.89	1.58	..	..	..	..	..	..	..	..	..	..	..	..
42-42-9	..	..	..	..	..	..	1.95	1.64	..	..	..	..	..	..	..	..	..	..	..	..

KETTLEMAN HILLS—55 degrees Gravity and above $1.65 per barrel. *Union Oil Company. †Changed March 18, 1929.

(See Page 44)

NATIONAL ADVERTISING

makes it easier for you to hold **YOUR REGULAR TRADE**

Everybody likes a LEADER!

And when a product is nationally advertised it has quality and value—it is a leader in its field! The dealer who carries that product is a leader in his community—his trade has greater confidence in him and his merchandise . . . When you sell nationally advertised gasoline and motor oil your good will is increased—your trade is easier to keep—and every new customer means an increase in volume—an increase in turnover—a step forward in progress. The Sinclair Opaline Signs on service stations, made familiar to tourists by advertising, are always friendly invitations to drive in!

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is nationally advertised as the **EXTRA SERVICE** *motor oil*

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 42*)

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	.70
25 to 25.9 gravity	.74
26 to 26.9 gravity	.78
27 to 27.9 gravity	.82
28 to 28.9 gravity	.86
29 to 29.9 gravity	.90
30 to 30.9 gravity	.94
31 to 31.9 gravity	.98
32 to 32.9 gravity	1.02
33 to 33.9 gravity	1.06
34 to 34.9 gravity	1.10
35 to 35.9 gravity	1.14
36 and above	1.18

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

MARKHAM
The Texas Company
(Effective May 20, 1929)

All grades	$1.00

LULING

All grades	.90

NORTH AND CENTRAL TEXAS
(Effective May 21, 1929)
Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company)

Below 25	.85
25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

SOUTH TEXAS

Mirando	.90
Salt Flat	1.25

GULF COAST
(Effective May 21, 1929)

Grade "A" all companies	1.30
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.18
26 to 26.9 gravity	1.21
27 to 27.9 gravity	1.24
28 to 28.9 gravity	1.27
29 to 29.9 gravity	1.30
30 to 30.9 gravity	1.33
31 to 31.9 gravity	1.36
32 to 32.9 gravity	1.39
33 to 33.9 gravity	1.42
34 to 34.9 gravity	1.45
35 to 35.9 gravity	1.48
36 to 36.9 gravity	1.51
37 to 37.9 gravity	1.54
38 to 38.9 gravity	1.57
39 to 39.9 gravity	1.60
40 and above	1.63

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

WYOMING-MONTANA
(Effective May 21, 1929)
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.65
Grass Creek	1.65
Rock Creek	1.40
Lost Soldier	1.05
Lance Creek	1.68
Mule Creek	1.20
Notches	.65
Big Muddy	1.43
Osage	1.38
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.48
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA
(Effective May 24)

Sunburst	$1.75
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

Artesia	1.08
Hogback	1.43

CANADA
(Effective May 21, 1929)

Oil Springs	2.27
Petrolia	2.20

LOUISIANA-ARKANSAS
(Effective May 22, 1929)
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley*
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company.)

27 to 27.9 gravity	$1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 gravity and above	1.85

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS
(All Companies)

Below 28 gravity	90
28 to 28.9 gravity	.94
29 to 29.9 gravity	.98
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.06
32 gravity and above	1.10

SMACKOVER
(All Companies)

Below 24 gravity	.85
24 and above	1.00
Bellevue	1.30
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	1.00
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS
(Barrels of 42 gallons)

	Week Ended August 17	Week Ended August 10
AT ATLANTIC COAST PORTS—		
Baltimore	289,000	213,000
Boston	142,000	69,000
New York	679,000	995,000
Philadelphia	264,000	336,000
Others	249,000	118,000
Total	1,623,000	1,731,000
Daily Average	231,857	247,285
AT GULF COAST PORTS—		
Galveston District	66,000	.....
New Orleans and Baton Rouge	45,000	65,000
Port Arthur and Sabine District	.....	.....
Tampa	23,000	.....
Total	134,000	65,000
Daily Average	19,143	9,286
AT ALL UNITED STATES PORTS—		
Total	1,757,000	1,796,000
Daily Average	251,000	256,571
Daily Average Four Weeks Ended	271,178	269,857

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS
(Barrels of 42 gallons)

	Week Ended August 17	Week Ended August 10
AT ATLANTIC COAST PORTS—		
Baltimore	164,000	158,000
Boston	.....	.....
New York	165,000	75,000
Philadelphia	.....	116,000
Others	.....	.....
Total	329,000	349,000
Daily Average	47,000	49,857
AT GULF COAST PORTS—		
Total	77,000	.....
Daily Average	11,000	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	406,000	349,000
Daily Average	58,000	49,857
Daily Average Four Weeks Ended	75,429	66,607
Distribution of Total California Oil Receipts is as follows:		
Crude	.....	.....
Gasoline	259,000	349,000
Fuel Oil	70,000	.....
Kerosene Distillate	77,000	.....
Total	406,000	349,000

You'll know when you *try* one

There is only one way to find out just how vast an improvement W-K-M Petol Pipe Tongs are over old style tongs. That is to try them yourself. W-K-M Field Men are equipped with demonstrating racks and 1¼" Petol Tongs as shown. You can try them out in your office and see for yourself their superior construction and advantages.

You will find that when laid on the pipe, they take hold instantly with a positive, non-crushing grip.

That they are removed from the pipe by simply lifting them up.

That they ratchet perfectly, and that every bite of the bits is positive with no danger of the tong slipping around the pipe.

After you have tried W-K-M Petol Pipe Tongs to your own satisfaction order one for your own particular need.

Let your workmen try them out and get their opinion.

After these exhaustive tests are completed, you will find—

(1) That they are the fastest, safest tongs you have ever used.

(2) That their lightness increases production by conserving the energy of the workmen for the entire day, instead of wearing them down the first few hours.

(3) That they meet with the approval of the workmen themselves.

(4) That all in all, they are the most economical tong from every angle that has ever been on the market.

If you find W-K-M Petol Tongs do not do all we say they will, you may send the tongs back to us and we will credit your account with them.

W-K-M PETOL PIPE TONGS

"The tong's with the hungry 'bite'."

Fill out the coupon in the lower right corner and mail to us.

MARK WITH X, SERVICE DESIRED

W-K-M Company, Inc.,
Houston, Texas.
Gentlemen:

( ) Please have field man demonstrate W-K-M Petol Tongs to us, at no obligation on our part.
( ) Please send descriptive literature covering the features of W-K-M Petol Tongs.

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City .....
Street .....
State .....

The W-K-M CO., Inc.
OIL FIELD-PIPE LINE & INDUSTRIAL EQUIPMENT
HOUSTON - TEXAS
EXPORT DEPARTMENT: 74 TRINITY PLACE, NEW YORK, N. Y.

PERSONAL MENTION-MEN YOU KNOW

J. C. Tomlinson of Fort Worth recently was elected assistant secretary of the Southern Crude Oil Purchasing Company and the Southern Pipe Line Company.

D. A. Sillers, head of the metering department of the Lone Star Gas Company of Dallas, left Dallas August 24 for a trip to some of the company's producing properties in Oklahoma.

W. L. Todd of Dallas, vice-president of the Simms Oil Company, who has been out of town on business, is expected to return to his office next week.

W. Ridley Wheeler, who has been acting as head of the land and production departments of the Southern Crude Oil Purchasing Company for the past several months, has been elected vice-president of the company and its affilliated pipe line company, the Southern Pipe Line Company. Wheeler's career in the oil industry began in 1914, when he was connected with a drilling contracting concern in Louisiana. In 1921 he went with the Higgins Oil and Fuel Company, a subsidiary of the Houston Oil Company. Leaving this company, he was associated with the Shell Oil Corporation interests and later was located at the Camden, Arkansas, refinery of the Houston Oil Company.

W. A. Belstrom, head of the land department of Mills Bennett Production Company, Houston, is visiting in Minneapolis and St. Paul on his annual vacation.

Carl Russ, of Houston, chief clerk of the Gulf Production Company, accompanied by his wife and their two children, is in Orange, Texas, spending part of his annual vacation with relatives there.

F. M. Seibert, head of the research department of the Gulf Companies at Houston, accompanied by Mrs. Seibert, is in Meyersdale, Pennsylvania, on vacation.

E. T. Gregg of the research department of the Gulf Companies, Houston, is in Aspinwall, Pennsylvania, on vacation, accompanied by Mrs. Gregg.

F. G. Eggleston of the production department of Rycade Oil Corporation is back in Houston after spending three months for his company in Lea County, New Mexico.

Oliver R. Wilson of the S. R. Sikes Company, Minneapolis, manufacturers of leather belting is on a trip through the southwest.

Frank W. Kirk, of Houston, formerly general superintendent of the Houston Pipe Line Company, has been made general manager of that concern to succeed C. B. McKinney, deceased. Following Mr. McKinney's death, Mr. Kirk was appointed acting general manager, and on August 24 the appointment was confirmed by the executive committee of the board of directors.

W. H. Geis, vice-president of the Continental Oil Company of Arizona, formerly chief geologist for the company in the Rocky Mountain States, and at one time associated with the Consolidated Royalty Company and Western Exploration Company with Casper, Wyoming, headquarters, has resigned to become president of the newly organized Arrowhead Oil Company of California.

Kenneth D. Pardee is the new district superintendent of the Montana division of Texas Production Company. He will establish headquarters in Conrad, Montana. Mr. Pardee has until recently been associated with Turkish Petroleum Company as field superintendent in charge of operations in Iraq.

George Dyer, formerly general field superintendent in the Los Angeles Basin for the Pacific Western Oil Company, has been transferred to Bakersfield, where he will be in charge of the northern territory for the company.

F. E. Hadden, chief accountant of the California Company, with Dallas headquarters, has returned to Texas after an extended vacation trip to California.

R. A. Wilson to Head New Specialty Company

R. A. (Bob) Wilson, secretary and director of manufacturing of the Guiberson Corporation, Dallas, Texas, has resigned his position with that company to become effective September 1, and will shortly announce plans for a new oil country specialty manufacturing company which he will head.

Wilson has spent a large part of his life in the oil supply business and was one of the original officers of the Guiberson Corporation when it was founded 10 years ago. He has been connected with the company since that time and has taken a part in the splendid growth which the company has enjoyed. He has been very active in connection with A. P. I. standardization work and has a host of friends in the oil industry.

W. E. Hancock of the Main Belting Company, Philadelphia, has been in Tulsa recently.

John Sloan, district manager of the International Supply Company, Tulsa, has returned from his vacation spent in California.

J. B. Johnson, former purchasing agent of the Tidal Oil Company, Tulsa, who has been ill at home for some time is now at the Mayo Sanitarium at Rochester, Minnesota, for treatment.

Sidney Powers of Tulsa, chief geologist for Amerada Petroleum Corporation, is traveling through the West Texas fields.

Angus McLeod, superintendent of the land and geological department of the central division of Shell Petroleum Corporation's Mid-Continent operations, is scheduled to sail with his bride August 31 for a honeymoon abroad. Mr. McLeod will visit the Hague during the trip.

E. E. Payne, resident geologist of Phillips Petroleum Company at Roswell, New Mexico, is visiting the company's district office in San Angelo.

Mike Flanagan of the Gaso Pump and Burner Company, Tulsa, accompanied by S. J. Lester, drilling contractor, is on a trip in the east. They plan to stop at Bradford, Pennsylvania, their old home town.

P. O. Dowlin, formerly a member of Shell Petroleum Corporation's land department, Gulf Coast territory, and now associated with the company's title department in St. Louis, is the father of an eight-pound son born late in August.

C. F. Gross, office manager of Shell Petroleum Corporation, Houston, is spending a vacation in Georgia, accompanied by Mrs. Gross.

Wallace C. Franklin, vice-president and counsel of the Tidal Oil Company, Tulsa, with his family are in Kentucky, visiting Mr. Franklin's boyhood home.

R. V. L. Stratton, superintendent of the land department, Tidal Oil Company, Tulsa, is recuperating from a recent illness at Cedar Crest, Oklahoma. Mrs. Stratton and their daughter are with Mr. Stratton there.

P. S. Haury, district geologist for the Simms Oil Company at Midland, Texas, has been transferred to Shawnee, Oklahoma, where his company has considerable interest at the present time.

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Deeper Wells Become Production Factor at Santa Fe Springs

LOS ANGELES.—On the eve of a drilling campaign to the lower Clarke (Hathaway) zone and with the inauguration of the new gas saving law actually at hand, Santa Fe Springs presents a very difficult situation to analyze. Regardless of the effect of the statute on production in other fields, Santa Fe Springs must bear the brunt of the blow if the law is to be effective. These factors opposing one another have set up a series of cross currents which may immediately reduce this field total up to 10,000 barrels or may cause a new field peak from the lower Clarke zone. The latter deduction hardly seems possible and only by producing the O'Connell zone at a maximum rate and by a continuation of drilling to the lower Clarke zone can the present field production of about 290,000 barrels be materially increased.

Operators have been given a full 60 days to make arrangements for cutting back production to eliminate gas waste, and the state feels that if plans have not been made, operators themselves are largely at fault. It is true that the larger wells have been declining steadily and an estimate of production on September 1 would have been difficult, but producers wasting large quantities of gas during July and August probably would be wasting at least a part of this quantity on the date the statute was to become effective. Strict cooperation will be required to eliminate gas waste, with each operator expected to look after his own affairs and not to worry about his neighbor's waste. Failure to cooperate has been chiefly responsible for the breaking down of conservation efforts in the past. In this particular case, failure to prevent gas waste is unlawful and the state is ready to do its part to enforce the new law.

The proposed plan for disposition of natural gas should prove especially equitable in the Santa Fe Springs field, where offsets are only a few yards apart. Complete plans have not been formulated but a pro rata basis will be used to insure each operator a fair distribution of his gas.

Although the O'Connell zone has a fairly low gas-oil ratio, nearly 500 million cubic feet of gas is being wasted daily in the field. This is about 75 per cent. of the state's total waste. If this waste is eliminated entirely, and field production remains fairly stationary until after September 1, production should drop more than 100,000 barrels during the month. Estimates remain nothing more than guesswork, however, and a reduction of 50,000 barrels, in addition to the natural decline, will be welcomed.

Deep Wells a Factor

Production from the lower Clarke zone has already become a factor in the field total, despite the fact that most wells have been completed on edge leases and at depths averaging 8000 feet. The major companies are contemplating still greater activity and are anxious to prove leases which were non-productive in the shallower zones. Eighteen wells are producing in this sand, production standing at 32,000 barrels. A survey shows that 40 wells are drilling below 7000 feet and 57 are drilling above 7000 feet, all of which are destined for the lower Clarke sand. In addition to the active drilling wells, there are 17 active locations and rigs. Such activity can not be ignored and, barring strict enforcement of the gas saving law, the zone will soon become a major factor in field production, if not the most productive formation.

Regardless of the effectiveness of the gas saving law, the O'Connell zone will soon start a steady decline. It now requires about 25,000 barrels of new oil weekly to offset the flush decline. Since this amount is not in sight for future weeks, a drop is certain. Average initial production of new wells is running around 2600 barrels, as compared with 4000 barrels during earlier weeks. Gas-oil ratio is higher in many new producers than in most wells completed two months ago, while the percentage of water is also slightly higher than in earlier completions. Both the casing and tubing pressures have shown a steady decline, but in view of the fact that more than 100 wells have been completed in the sand, the drop is really smaller than anticipated.

The O'Connell zone will be active for at least another month, with a tapering off which will extend until the end of the year. Of the 52 projects under way, 30 wells have not reached the zone, 14 are cemented over it and eight are ready for completion in the sand. This total will not equal the decline from the 100 older wells unless some unexpected turn is taken. The decline may even be sharp if edge water takes a heavy toll and the smaller wells are deepened to the lower Clarke sand.

Standard Oil Company and Shell Oil Company are especially active in the development of the lower Clarke zone. Both companies are in sympathy with the gas saving movement, but wish to develop their holdings to insure a steady production in the future, plus a desire to obtain their share of the flush yield. These companies fared rather poorly in the development of both the Buckbee and Nordstrum zones, but apparently hold good leases over the lower Clarke zone.

New Wells Held Up

Several new locations are being planned, but pending the outcome of the gas saving law, actual drilling will not start during the unsettled period. Present production is coming from a wide belt circling the field, with the southern and western parts accounting for the bulk of the total. The northern and eastern parts of the field have been especially productive in the Buckbee zone and are necessarily delayed in making a showing in the lower Clarke sand.

Universal Consolidated Oil Company's O'Connell 4, reported last week as a 2000-barrel producer, is now producing 3000 barrels of 33.3 gravity oil, with no signs of falling off. This well was drilled to 7714 feet and plugged back to 7612 feet as a precaution. Only the top of the lower Clarke zone was included in this well — one of the first inside completions in the sand.

There is still a belief that the lower Clarke zone is the beginning of the Miocene, although no definite proof can be offered to support the theory. If this proves to be the case, the zone may extend several hundred feet below the greatest depth yet reached. Long Beach is producing chiefly from the Miocene, which lies below 5500 feet.

Union Oil Company completed Bell 42 with an initial production of 2200 barrels at 6850 feet, making it a much smaller well than the average run of the company's earlier O'Connell zone producers. The oil was 30.2 gravity and showed a cut of 8.6 per cent. This has been the favorite level for completing wells on the Bell lease and the lower initial production reflects a smaller pressure in the O'Connell zone.

The Texas Company kept its consecu-

tive record of completions intact for another week by placing on production Baldwin 3. This well was completed in the O'Connell zone at 6875 feet, having produced 3700 barrels of clean oil on the initial test. The Texas Company has the third largest production in the field.

Production by zones at the end of the week gave the Nordstrum 18,000 barrels from 23 wells; Buckbee, 22,000 barrels from 42 wells; O'Connell, 190,000 barrels from 90 wells; lower Clarke, 32,000 barrels from 17 wells, and shallow sands, 25,000 barrels from 212 wells.

Production by companies showed Union Oil Company leading in the deep zones with 55,000 barrels, General Petroleum Corporation next with 48,000 barrels and the remainder divided as follows: Associated Oil Company, 11,000 barrels; Standard Oil Company, 15,000 barrels; Richfield Oil Company, 5000 barrels; Shell Oil Company, 9000 barrels; The Texas Company, 36,000 barrels; Wilshire Oil Company, 12,000 barrels, and all other companies, 75,000 barrels.

Kettleman Agreement Is Held Up

Los Angeles. — The Kettleman Hills agreement is being temporarily held up, pending the signature of the Milham Exploration Company, the only operator which has not signed the suspension order to limit drilling operations until July 1, 1931. The company is not voluntarily withholding its signature, but is a victim of circumstances which will be adjusted within a week. Pacific Gas & Electric Company holds a contract with Milham Exploration Company to furnish a large quantity of natural gas for consumption in San Francisco, and it is upon this contract that most of the trouble hinges. The Bay City gas company is anxious to deliver natural gas into its mains, just as Milham Exploration Company is anxious to curtail operations at Kettleman Hills.

Ventura

Ventura, Calif.—Completion of M. K. and T. Oil Company's Foster 3 in the southern extension of the Ventura field failed to throw additional light on this somewhat questionable part of the structure, the new well having flowed only 621 barrels, of which more than half was water. Completed at 6960 feet, with the nine-inch casing cemented at 5925 feet, the well is much shallower than Percy 1, which was placed on production a week ago as a rather doubtful producer. The southern extension looked very promising after completion of the discovery well, but subsequent drilling has reversed the status of the district.

Inauguration of the gas saving law will certainly reduce production in the Ventura field, but the reduction depends upon the effectiveness of the new statute. Around 60 million cubic feet is being wasted, with the quantity varying as new wells are completed and as consumption fluctuates.

Proposed Plan of Gas Disposition Sent to California Operators

LOS ANGELES.—R. D. Bush, State Oil and Gas Supervisor, has sent all lessors, lessees and operators of wells producing natural gas in the Santa Fe Springs, Long Beach, Seal Beach and Ventura fields a copy of the proposed plan for disposition of natural gas in the various districts, with an explanation that it is the inclination of his office to approve of such a plan in principle, provided every operator be given an equal opportunity to join therein. Certain operators framed the plan and it apparently is an equitable arrangement for disposing of the natural gas on a pro rata basis.

The letter states that the repressuring and confinement of gas underground in the low pressure oil and gas zones where there is a reasonable prospect of an increase in the ultimate recovery of oil and recovery of a substantial portion of the repressured gas for future use, or either, will be considered a use and not a waste.

The proposed plan, as originally outlined by certain operators and sent out by the State Oil and Gas Supervisor, follows:

"It is proposed that the business of disposing of natural gas in the Los Angeles Basin fields and the Ventura field shall be handled upon the following principles, subject to a satisfactory working out of the operating details:

"(1) That the amount of gas sold to the gas companies shall be taken pro rata from all the producers, but that the companies having the contracts shall receive the payment for such gas in accordance with the terms of their contract as though their own gas had been delivered thereunder.

"(2) That all gas used in the field for fuel or other operative purposes shall be taken pro rata from all the operators in that field.

"(3) That all gas used for repressuring in the field from which the gas is produced shall be taken pro rata from all the operators in said field who shall contribute pro rata to the cost of injection of the gas. This on the theory that each of the contributors will have a pro rata opportunity of recapturing this gas when the time arrives for its recovery.

"(4) Arrangements are being attempted for removing gas from fields and storing the same in distant reservoirs. If this can be worked out, it is understood that the gas so stored in distant reservoirs will be taken pro rata from the producers and without charge to the producers for injection or transportation. This gas when recaptured will belong to the operators contributing toward the cost of injection, subject to such arrangements as can be made with the owner of the reservoir.

"(5) Whenever 'pro rata' is used in this plan, it is to be understood that it is the proportion which the producer's maximum potential production of gas, limited by a maximum oil and gas ratio to be hereafter established, bears to the total maximum potential production of the field under the same limitation.

"The fundamental principle of the above plan is that every one shall have an equal pro rata opportunity to make physical disposition of the gas so that no one will be obliged to blow gas into the air or curtail his oil production in disproportion to his neighbors."

Mr. Bush stated in the letter accompanying the proposed agreement that his office would appreciate an expression from each operator of his views on the principle involved.

Kettleman Hills Test Now Shutting Off Water

Coalinga, Calif.—Standard Oil Company is making a final water shutoff test in No. 41, Section 3-22-17, in the Kettleman Hills field, and will make an attempt to complete the well at its present depth — 6445 feet. A string of nine-inch casing was cemented at 6077 feet and a string of three-inch tubing run to 6050 feet for swabbing out the fluid. When the hole was swabbed to 4000 feet, the well started to flow under its own pressure. More hole will be made if necessary.

The very hard formation below 6000 feet is taking a heavy toll in bits and core drills, several wells being able to make only a few feet per day. Fishing jobs have not proven the greatest stumbling block, although at least one well has been unable to make any progress for several months on account of a broken string of drill pipe.

Milham Exploration Company is drilling at 7265 feet in Kennedy 1, Section 28-21-17, with a very hard sand offering little promise. This is the deepest well ever drilled in the field and although it is located more than a mile northwest of the discovery well, the main sand was expected above the present level.

Ohio Oil Company is drilling at 6750 feet in Smith 1, an important well on the south dome. A string of nine-inch casing was cemented at 6690 feet. Oil and gas showings have been found at frequent intervals below 5000 feet in Smith 1 and its success would prove a large area. Located 20 miles southeast of the discovery well, it proves the south dome to roughly correspond to the north dome in the matter of formations.

Bakersfield, Calif.—Taft Well Drilling Company, after drilling through several streaks of oil sand, has abandoned Delfino 1, Section 2-30-27, and in doing so has eliminated a possible means of connecting the Fruitvale field with the Union Avenue district. The well was drilled to 4505 feet, the last few hundred feet having failed to yield an important showing.

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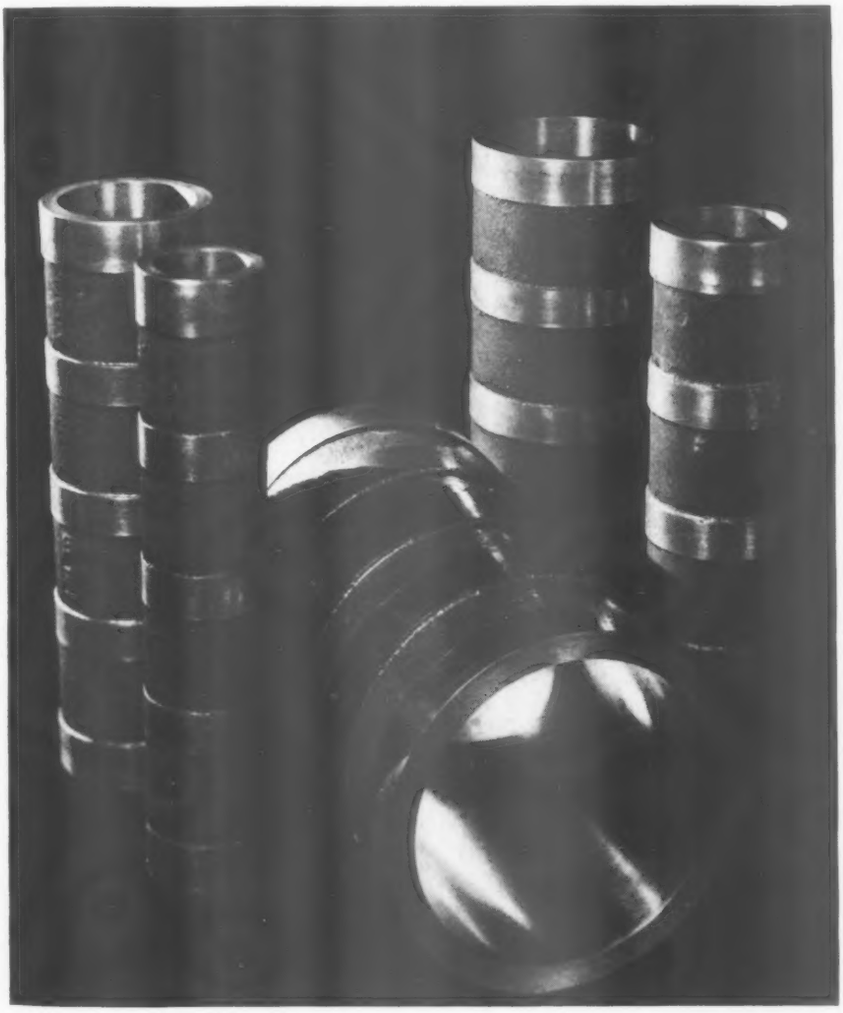

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North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Taylor-Link Pool Not Holding To Early Expectations

SAN ANGELO, Texas. — Developments in the Taylor-Link pool of Pecos County up to August 27, although gratifying insofar as the desire for less flush production is concerned, have proven a disappointment to those engaged in its exploitation as well as to major pipe line companies, who contemplated handling the production there. So far, none of the drilling tests in the vicinity give indications of contributing any serious amount of flush production.

Perhaps the most closely watched of the several tests surrounding the Taylor-Link Oil Company's properties is World Oil Company's University 1-B in Section 13, Block 18, which is drilling below 1210 feet in anhydrite. The well, which has an elevation of 2525 feet, with the top of the salt at 850 feet, had a show of gas at 1105 to 1110 feet and two million feet of gas at 1147 to 1153 feet. It is an east offset to Taylor-Link Oil Company's University 2.

Shell Petroleum Corporation's University 1-B, north of the discovery well and in Section 30, is drilling in lime below 1575 after setting casing at 1566 feet. It ran into sulphur water at 1390 feet.

W. A. Moncrief's University 2 is drilling below 1675 feet in lime after pulling tubing. This is deeper than any of the wells in the Taylor-Link area have been drilled.

Moncreif's University 2 last gauged 20 barrels in 16 hours and no increase in oil or water has been experienced with the increase in depth. It is located in Section 13, Block 18, with an elevation of 2560 feet. It logged the top of the pay at 1535 feet.

Tidal Oil Company has one active test in the region, since abandonment at 1716 feet of University 3. The well was abandoned in sulphur water coming from brown lime which showed faint traces of oil. University 3 is located on Section 17, Block 20. The company's University 1-B in Section 3, Block 18, had a small show of sulphur water at 1435 feet, which had exhausted before the present drilling depth of 1520 feet was reached.

Landreth Production Company's well in Section 13, three-quarters of a mile southwest of Taylor-Link Oil Company's University 1, will be completed as a gas well at 950 feet, where a flow of 66,000,000 cubic feet was gauged. Another test will be drilled by the company in the vicinity.

Taylor-Link Oil Company's University 2 is pinched to 200 barrels per day due to lack of pipe line facilities, but on an open flow gauge August 21 it proved capable of yielding 1400 barrels per day.

Presumably hinged on expectations that Phillips Petroleum Company's J. A. Whitten 1, which had recorded a show of 35 gravity oil at 4915-25 feet, would open a pool, Schleicher County, which has been the scene of fruitless exploitation for a number of years, witnessed a concentrated leasing campaign this week. Whitten 1 had swabbed dry when 65 barrels of oil and water had been removed from the hole, however, and it is being deepened below 4997 feet.

Five major producing companies participating in the leasing activity in Schleicher County are Atlantic Oil Producing Company, Empire Gas & Fuel Company, Sinclair Oil & Gas Company, Shell Petroleum Corporation and Skelly Oil Company.

Atlantic Oil Producing Company has bought Sections 40, 31, 24, 42, 30, 25, 26, 29, 43, 46, 45, 44, 28 and 27 of Block 8, TW&NG Survey, also Section 14, Block 1, GH&SA Survey, and the west half of Section 6, and all of Sections 3, 4 and 5, GC&SF Survey, lying between Block 8 and Block A.

. Empire Gas & Fuel Company paid $2.25 per acre for a 10-year lease, with 50 cents rental on the south half of Section 11, the south half of Section 1, the west half of Section 30, Block 1, GH&SA Survey.

Sinclair Oil & Gas Company leased the north half of Section 63, the north half of Section 76, Block TT; Section 100 and the north half of Section 55 in Block LL; Sections 138, 72 and 4 of Block A, HE&WT Survey; Sections 73, 42, 41, 40, 39, 36, 37, 38, Block H, GH&SA Survey; Section 12, the north half of Section 11, Sections 4 and 40, Block A, and Section 10, joining Section 51 on the south.

Shell Petroleum Corporation paid $110 per acre for the west half of Section 40, Block 11, just south of the Whitten well of Phillips Petroleum Company. Skelly Oil Company paid $25 per acre for the east 80 acres of Section 29, Block LL, TC Survey. Kemp & Kempner paid $25 per acre bonus with $1 rental for the east half of Section 44, Block LL. Northrup & Carr purchased Sections 25, 23, 7, 5, 37, 35, 53 and 21, the west half of Section 39, the north half of Section 9, Block TT.

Lea County Production Is Extended Nearly Mile

Artesia, New Mexico. — The "Hobbs High" area of Lea County, located three miles west-northwest of Hobbs, was conspicuous this week on account of the behavior of the Humble Oil & Refining Company's D. A. Bowers 1, which was reported on August 26 to be flowing 25 barrels per hour. Being 2¼ miles northwest of Mid-West Refining Company's Capps 1, which is located in Section 3-19-38, the Bowers well extends the prospective producing territory just that far. D. A. Bowers 1 is located in Section 30-18-33.

The well is producing from a total depth of 3250 feet, with the top of the producing horizon at 4153 feet. It had an estimated flow of 12 million cubic feet of gas at 2812 feet. This increased when the top of the producing horizon was encountered. Elevation of the well is 3657 feet, with the top of the salt logged at 1590 feet.

Another significant fact with relation to development of New Mexico's practically virgin structures in the performance of The Texas Company et al's C. W. Sheppard 1, Section 6-26s-37e, Lea County. When cement was drilled out to 3295 feet, August 23, the well produced 965 barrels of oil with 900 pounds back pressure, which is plenty. C. W. Sheppard 1, originally was completed early in July as a 1560-barrel well, but went dead after a life of only 10 days. Production is flowing through a 48/64-inch choke.

Cranfill & Reynolds' State 1-B, located in Section 2-21-33, swabbed 50 barrels the first hour it was on production and during the ensuing 12 hours swabbed 1600 barrels from a total depth of 3760 feet.

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Merger of Sinclair and Prairie Nearing Completion

TULSA. — Merger of Sinclair Consolidated Oil Corporation and Prairie Oil & Gas Company seemed to be moving toward completion this week.

Consolidation of these two is nothing new to financial circles as rumors were frequent last year. Statements from officials of each company now leave no doubt as to negotiations, although these statements indicate that several months may elapse before any final announcement is ready.

The oil industry is somewhat perplexed over the question of which of the two will be dominant in any merger. Harry F. Sinclair, chairman of the board of Sinclair Consolidated Oil Corporation, issued a statement in which he admitted that negotiations are under way and added, "There are many obstacles to be overcome before any merger or purchase can take place." He made it clear that he was not retiring from the oil business and by inference left the impression that he expected to guide whatever combine may come out of a merger of his company.

The financial position of Prairie Oil & Gas Company and its dominant situation as a producer of crude oil in the Mid-Continent leave no room for placing that organization secondary in any merger. W. S. Fitzpatrick did not verify reports of the merger, according to press dispatches, but did admit that the merger had been considered several months back. He said there was no foundation to reports of any immediate merger, but added that conditions of the petroleum industry now warrant larger units.

At this date the stock of neither concern has responded as would be expected with a merger in prospect. Prairie Oil & Gas Company closed Tuesday at 58½, its close Monday. Sinclair Consolidated Oil Corporation closed at 37¾, quarter up over Monday. Prairie Pipe Line Company closed Tuesday at 65⅜, with 64¾ the close Monday. Prairie Oil & Gas Company has authorized capital of $70,000,000, par $25, with $60,636,450 outstanding. Prairie Pipe Line Company has authorized capital of $101,250,000, par $25. Sinclair Consolidated Oil Corporation has 10,000,000 par shares authorized, with 6,630,000 shares outstanding.

Merger of the two concerns would bring about another gigantic integrated oil company. Except through stock ownership in Producers & Refiners Corporation, Prairie Oil & Gas Company has neither refining nor sales, while Sinclair Consolidated Oil Corporation has extensive refining and sales units from the Rocky Mountain area to the Atlantic seaboard. Sinclair Pipe Line Company, a Sinclair subsidiary, is owned jointly with Standard Oil Company of Indiana. Sinclair Crude Oil Purchasing Company is also owned jointly by these two concerns. Pipe line facilities of the two companies are duplicated in the greater part of the Mid-Continent area and into the Chicago refining center. The Sinclair system includes a line from the Salt Creek area joining the system in Missouri. The line has been inactive for a long period and some of the pumping equipment has been removed.

Dividends were resumed on Sinclair Consolidated Oil Corporation stock in April this year after being suspended since April, 1924. Prairie Oil & Gas Company also resumed dividends this month, having suspended August 31, 1927.

Should Prairie Oil & Gas Company dominate the possible merger it would leave two Standard Oil units competing in the Middle West, as Sinclair retail units are most numerous in Standard Oil Company of Indiana territory. This overlapping of trade territory between Standard units has been growing recently. That it will become even greater is indicated by mergers under consideration. Purchase of the White Eagle Oil & Refining Company by Magnolia Petroleum Company, which was rumored in financial circles last week, would place Standard Oil Company of New York, which controls Magnolia Petroleum Company, in competition with Standard Oil Company of Indiana, as White Eagle Oil & Refining Company is active in a large part of the Indiana territory.

Operators in Panhandle Section Agree to Reduce Output

AMARILLO, Texas. — Representatives of 20 operating companies in Gray County decided August 23 to put into effect until October 1 an agreement which will mean a substantial reduction in oil production in that county. H. M. Stallcup of Skelly Oil Company presided at the meeting.

The substance of the agreement was to shut down wells on top of the granite wash pay sand and to refrain from drilling deeper small pumping wells with the idea of increasing their production. The agreement applies to those wells not endangered by drainage of offsets. Its efficacy will be determined October 1, when another meeting of company representatives will convene.

Production in Gray County for the week ending August 23 was 97,531 barrels, substantially 10,000 barrels above the previous week's daily average. This has caused a precarious condition, as pipe line capacities of the area are already taxed and the amount of reserve storage facilities is limited. No new lines are being built into Gray County. No contemplated construction on storage facilities there has been announced during the week. In view of these facts, and the additional information that about 90 wells are drilling in the Bowers and Finley area, the above agreement reached by representative operators is encouraging. Its early effect is hoped for eagerly as the operators have experienced considerable difficulty in disposing of oil produced in excess of requirements of the purchasers.

The Texas Company added more than 11,000 barrels flush to its daily production in Gray County through completion of six wells. The most important of these was J. B. Bowers 13, which had an initial production of 6837 barrels from two horizons, 2925-35 feet and 2993-3000 feet. The Texas Company's J. B. Bowers 8 was a 3200-barrel well at 3080 feet. Bowers 8 produced from the granite wash pay also, production coming from 3025-35 feet and 3065-75 feet. The company's McClarty-Lester 2-B yielded 234 barrels per day from 2770 feet; G. H. Saunders 1 had an initial of 375 barrels at 2780 feet; J. M. Patton 3 swabbed 350 barrels, while No. 14 well on the same lease swabbed only 50 barrels.

Skelly Oil Company, already a major factor in Gray County, entrenched itself more firmly during the week with the addition of more than 7000 barrels of flush oil. This organization completed five wells, the best of which was its W. Jackson 3 North, which produced an estimated 4500 barrels for the initial gauge. Oil in W. Jackson 3 North is coming from granite wash at 2921-25 feet and 2954-68 feet. Total depth of the well is 3060 feet, and oil therefrom accompanied two million cubic feet of gas. Skelly Oil Company's No. 4 well on the same lease flowed 1440 barrels when agitated. It was drilled 35 feet deeper than No. 3 and carried 12 million feet of gas. No. 2 was completed for 600 barrels when swabbed at 3060 feet. The production flowed from 2924-35 and 3035-50 feet. On the W. Jackson East lease, Skelly Oil Company completed Nos. 1 and 2 for 615 barrels and 240 barrels, respectively.

Continental Oil Company's Finley-Brown 5 swabbed 370 barrels from 2890-2911 feet, in addition to 20 million feet of gas at 2780-2830 feet.

Phillips Petroleum Company's Minnie Cox 1, a well which has been watched with considerable interest by Gray County operators, missed the granite wash pay at 3260 feet and has a hole full of salt water. This well is located in the northeast corner of the northeast quarter of Section 58, block B-2, H&GN survey.

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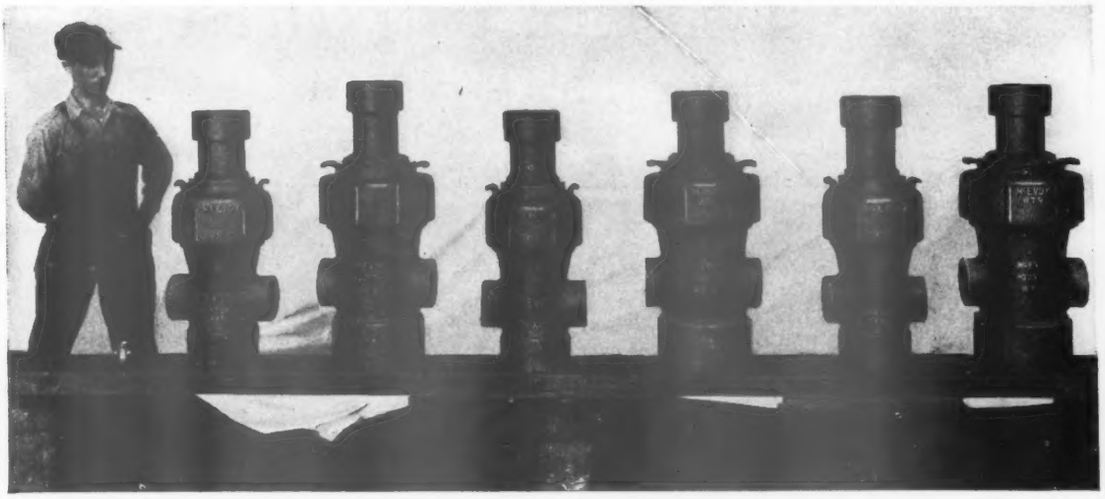

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Oklahoma--Kansas Field Notes

WARREN BAKER, *Staff Representative, Tulsa, Oklahoma*

Big Producer Extends Oklahoma City Pool to North

TULSA.—Completion of a 400-barrel per hour well that extended production three-quarters of a mile north, thereby increasing the length of the deep producing area to 2½ miles running northwest by southeast, and the chalking up of the first failure, were the high lights at Oklahoma City during the past week, as it continued to be the most interesting spot in Oklahoma.

The extension well is Indian Territory Illuminating Oil Company, Foster Petroleum Company, Cromwell-Franklin Oil Company's Trosper Park 1, C SE NW Section 13-11-3w. The top lime was topped at 6160 feet, with casing being set at 6200 feet. Total depth is 6504 feet. The well flowed 290 barrels the first hour. Its next six hour gauges were as follows: 315 barrels, 360 barrels, 406 barrels, 395 barrels, 390 barrels and 380 barrels. The gravity of the oil is 39.5 degrees at a temperature of 83 degrees. About 15,000,000 feet of gas accompanies the oil.

Cromwell Oil & Gas Company originally held the lease, which became the Cromwell-Franklin Oil Company, when Wirt Franklin obtained an interest in the lease and other holdings of the Cromwell Oil & Gas Company. When Indian Territory Illuminating Oil Company and Foster Petroleum Company were assembling their block of 6000 acres this lease was put into the block for an interest, with Cromwell-Franklin Oil Company retaining operating control. The property is owned by Oklahoma City.

There are four other wells spotted on the park property, two of which are drilling and the derricks are up on the others. Slightly over one mile north Wirt Franklin Oil Company has a shallower gasser on the Lowery property, which thus far marks the northern boundary of all production in the field.

The test was spudded early this year. Two very bad fishing jobs, however, caused a long period of delay. At 5712 feet the tools were lost in the hole and it was necessary to cement and drill by them. Despite this, the hole is said to be almost straight and in excellent condition. All of the marker formations were cored and seven showings of oil and gas were found before the top of the big lime was encountered.

The first failure in the deep horizon is the Shell Petroleum Corporation's Petty 2, SWc NE Section 30-11-2w, on the southeast edge of the pool. This well failed to find the big output of crude encountered in the lime formation by other wells and was gradually carried deeper into that formation. It made as high as 1097 barrels, but deeper drilling soon brought big water encroachment which dropped its production to 102 barrels of oil and 250 barrels of water. The water has increased until the hole stands full and the well is dead. Total depth is 6591 feet, with the biggest increase in water coming at 6576 feet.

This well, peculiarly, is a direct north offset to the Sinclair Oil & Gas Company and Amerada Petroleum Corporation's Kinter 1, NWc SE Section 30-11-2w, a big gasoline producer, now shut in. It was considered within the producing boundary of the field. The well is being prepared to drill deeper.

Indications are from the many tricky developments at Oklahoma City by past performances that nearly every test will be equivalent to a wildcat test in that the operators will not know what to expect.

May Shut In Big Producer

T. C. Vaughn, district conservation officer for the state, has charged the Indian Territory Illuminating Oil Company, Foster Petroleum Company, and Cromwell-Franklin Oil Company with wasting gas at their Bertha Johnson 1, NE NW Section 25-11-3w, southwestmost producer and the largest well yet completed in the field. Hearing on the matter has been set for September 4, at which time the State Corporation Commission is expected to ask that the well be shut in. The well came in on July 27 with a flow of 698 barrels per hour against back pressure. It has remained on back pressure practically ever since, because pipe lines and connections cannot handle its open flow estimated at 15,000 barrels per day. Production of the well has been running from 3100 to 4400 barrels daily against 1800 pounds back pressure.

Sinclair Oil & Gas Company and Amerada Petroleum Corporation have already felt the hand of the State Corporation Commission. Their Kinter 1, NW SE Section 30-11-2w, which was making 1200 barrels of gasoline daily was shut in under order. This resulted in the Indian Territory Illuminating Oil Company and Foster Petroleum Corporation shutting in Watters 1, NE NW NE Section 25-11-3w, another gasoline well, which was producing 2000 barrels per day.

Production Slips

Production of the Oklahoma City field was slipping the past week, falling to as low as 34,282 barrels. Completion of the big well on the Trosper Park property will serve to steady the output. A number of deep tests are thought to be close enough to the top of the producing horizons to check any further slide in the output that might occur.

One of the promising wells near completion is the Coline Oil Company's Olds 2, C NE NW Section 24-11-3w, has found several good showings of gas while bottomed at and above 6290 feet.

A very important test is Wirt Franklin Oil Company's Lowery 2, NE SW NW Section 12-11-3w, about one mile north of the new extension well and offsetting the Lowery 1, gasser. This well has cored showings of oil at around 6355 feet in sandy lime.

Indian Territory Illuminating Oil Company is preparing to carry its Fee 1, C SE SE Section 24-11-3w, discovery well, deeper. Sinclair Oil & Gas Company and Amerada Petroleum Corporation have succeeded in mudding off the strong gas pressure in Kinter 1, NWc SE Section 30-11-2w, first gasoline well, and south offset to the failure of the Shell Petroleum Corporation and are fishing for a long lost string of tools before trying to go deeper. Indian Territory Illuminating Oil Company and Foster Petroleum Company's Button 2, SW NW SW Section 19-11-2w, has finished a six weeks fishing job and has cleaned out to go deeper from 6206 feet.

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Second Producer For New Kansas Pool

Wichita. — The second well in the new Caldwell pool, which lies on the Oklahoma-Kansas border in Sumner County, Kansas and Grant County, Oklahoma, was drilled in last week. It is Gypsy Oil Company's Endurd 1, SE NW SW Section 16-35-3w, the west offset to the discovery producer. It started flowing at the rate of 150 barrels per hour of 48.5 gravity oil. The first eight hours it gauged 1048 barrels, and in 24 hours made 2665 barrels or 111 barrels per hour. It later had settled off to 2352 barrels in 24 hours.

Base of the Mississippi lime was found at 4647 feet in this well, with the top of the Viola lime at 4717 feet. Top of the Simpson sand was 4730 feet with the first oil at 4741 feet. Wilcox sand was entered at 4761 feet and the bottom of the hole is at three feet in the Wilcox sand.

With the drilling in of the west offset the discovery well of Gypsy Oil Company on the Williams farm, in NW SE SW Section 16-35-3w, dropped below 500 barrels per day for the first time. It also showed water and is now making from 15 to 25 barrels of water per day with slightly over 400 barrels of oil.

The pool evidently lies on the Kansas side, since the south offset which was in Oklahoma is but a very small well. It is Gypsy Oil Company's Gibson 1, which has been shot with 60 quarts at 4860 feet after missing the lower Wilcox sand. After plugging back it has 1800 feet of oil in the hole and will be pumped. Operators do not expect that the new Caldwell field will amount to much from a market standpoint since fields in this area in the past have been very small in producing territory and quite erratic.

Big Wells Revive Asher Interest

Tulsa.—There were several important developments in the Asher pool of Pottawatomie County, which revived the waning interest in that field during the past week. Prairie Oil & Gas Company and Tom B. Slick's Laster 6, NW SW NE Section 19-6-4, came in for 5750 barrels from the Viola lime. This test in the southeast part of the field is producing from a deeper depth than any previous producer, however, it is probably still in the Viola lime. Total depth of the well is 3682 feet, with the first oil found at 3635 feet. The largest increase in production was found at 3662 feet. Gravity of the oil was 43 degrees.

The output of the new producer, however, showed a quick drop in oil recovery and commenced cutting. The recovery of the well was down to 4750 barrels cutting six per cent. according to the latest report.

The same company's Laster 7, S NE Section 19-6-4, has cemented the casing at 3265 feet and is now resuming operations.

Simms Oil Company's Laster 4, NE NE Section 19-6-4, which came in six weeks ago, has increased its production from 3500 barrels daily initial to 5800 barrels by drilling two feet deeper.

Texola Oil Company's well in Block 52, Asher townsite, is ready to be put on gas pressure. The well is standing full of oil but apparently lacks sufficient pressure to flow. It is expected to be a good well. Texola Oil Company will start two more wells on the townsite at once. Derricks are being moved in.

Graham et al's well in Block 36, which caught fire while flowing 3000 barrels, after working for two weeks to shut off the water, is ready to drill deeper.

Fourteen wells are actively drilling on the west side of the Asher pool, and considerable drilling is anticipated on the south and east sides as a result of the Prairie Oil & Gas Company and Tom Slick's big well.

Greer County

Tulsa.—Helmerick and Payne, Inc., of Tulsa, Houch 1, NW¼ Section 23-6n-24w, wildcat test in western Greer County, southwestern Oklahoma, has encountered gas showings at 1360 and 1425 feet. The last showing was for 1,500,000 cubic feet daily. It is drilling ahead at 1500 feet.

A great deal of interest is being shown in this test since it is located on a large structure. The structure has had a good play of checking and rechecking since 1924, when it was first mapped by John A. Murphy of Tulsa. Early this year Clyde M. Becker, geologist of Chickasha, Oklahoma, remapped the area and showed about 30,000 acres on the structure and considerable leasing and royalty buying commenced as a result.

Indian Territory Illuminating Oil Company and Clyde Becker are standardizing in a test in Section 17-6-24w, two and one-half miles west of the Helmerick and Payne well at 1200 feet.

Maud

Tulsa. — Superior Oil Corporation is moving in a rig for a wildcat test in the SW NW Section 3-8-4, immediately west of the Maud field and north of the St. Louis field in Pottawatomie County, Oklahoma. A test drilled to 4860 feet in the southern part of this section was abandoned as a dry hole.

New Gas Line For Kansas Points

Tulsa. — Cities Service Gas Company will construct an eight-inch natural gas pipeline from Petrolia, Kansas, to Fort Scott, Kansas, a distance of 50 miles. It is expected to be completed by November 1, 1929.

The pipe line and production of the Union Gas Company, which has been supplying Fort Scott with gas will be purchased. The gas will also be available for Nevada, Missouri, and adjacent cities.

At Petrolia the new line will connect with the company's three 16-inch main lines coming from southern Kansas and Oklahoma gas fields.

Earlsboro Townsite

Tulsa. — Since Empire Oil & Refining Company and Amerada Petroleum Corporation's Henry 1, Block 2, Earlsboro townsite, Pottawatomie County, came in for 2400 barrels daily from the Wilcox sand, seven locations have been made in the townsite on blocks close up to production. The entire north end of the town is getting a big play and it is believed that the entire townsite may produce. Production of the well has dropped to 2100 barrels per day.

On the west edge of Earlsboro, Twin State Oil Company's Magruder 1, NEc Section 7-9-5, swabbed 630 barrels in 24 hours from the Wilcox sand at 4312-25 feet.

In the southeast extension to the Earlsboro field, Continental Oil Company's Smith 1, SE SW NW Section 18-9-6, encountered a hole full of water from the Wilcox sand at 4257-70 feet. This is in the midst of the rich oil producing area.

Amerada Petroleum Corporation's Sullivan 1, SW NE Section 17-9-6, same area, was shot with 29 quarts and flowed 3' barrels in 24 hours from 4283 feet. Prairie Oil & Gas Company's Caulkins 1, NW SW Section 17-9-6, which came in about 10 days ago, is making 6100 barrels per day. Prairie Oil & Gas Company's Raitman 2, NE SE Section 18-9-6, is doing 4640 barrels per day.

Mission

Tulsa.—Gypsy Oil Company's N. Barkus 9, NW SW SW Section 6-8-6, Mission field, Greater Seminole area, which has found a hole full of water in the Wilcox sand at total depth of 4292 feet, will be carried deeper to test the Siliceous lime. This will be the first Siliceous lime test for the pool.

Cowley County

Wichita.—The recent finding of a new helium gas field near Dexter in Cowley County, Kansas, has resulted in the Kentucky Nitrogen & Oxygen Company deciding to reinstall its Dexter, Kansas, helium gas plant, which it had decided to move to Thatcher, Colorado. Trees Oil Company's Brubaker 1, C SW NE Section 12-34-6e, has come in for 7,000,000 feet, open flow, with 215 pounds rock pressure at 1039-73 feet.

Little River

Tulsa. — Continental Oil Company and Shaffer Oil & Refining Company's Harrison 3, NW SW Section 4-7-7, in the east Little River pool, Seminole County, increased its production from 1000 barrels to 1850 barrels per day when put on air pressure last week.

Houston.—Humble Oil & Refining Company has abandoned its wildcat test, A. W. Miller 1, located 3½ miles west and a little south of Rosenberg in the Lester E. Cross Survey, Fort Bend County. The bottom of the hole is at 5371 feet in hard shale. The location of the well was based upon geophysical work done in 1929.

XUM

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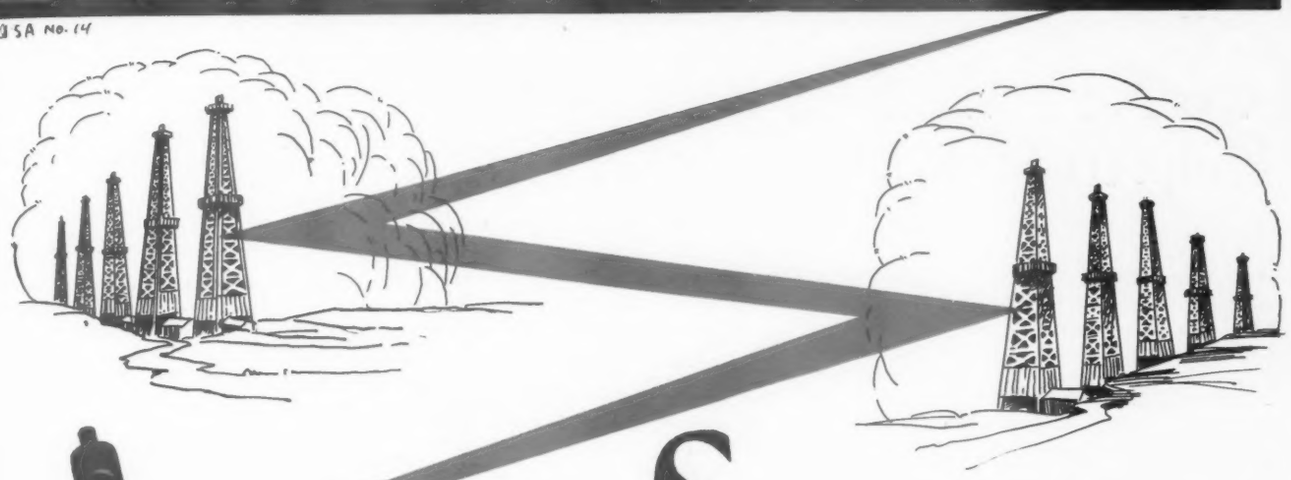

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Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Two New Wells at Barbers Hill Help to Hold Production Up

HOUSTON.—Barbers Hill continues to be the second largest producing field in the Gulf Coast, now ranking only slightly below Spindle Top, the leading field. On August 26 the field's total production was 19,871 barrels from 35 wells. The daily average for the week ending August 24, was 19,300 barrels.

During the past week two producers were completed at Barbers Hill, both in the north end of the east flank. Humphreys Corporation finished Kirby H-1 at 5074 feet for 1475 barrels initial production, and Rexal Oil Company's Cockburn 1 was completed for 350 barrels at 5207 feet.

Several other wells are due to be completed at Barbers Hill within a few days. Humphreys Corporation on August 27 was setting screen in the oil sand in two wells on the north end of the east flank in Tarbutton 1, which is 5187 feet deep, and in Kirby H-3, which is 5200 feet deep. In that same section of the field Humphreys Corporation has derrick up for Kirby H-4, and Rexal Oil Company is drilling shale and lime at 4677 feet in McLean 3.

In the south part of the field Yount-Lee Oil Company's Chambers County Agricultural Association 4, the deepest hole ever put down in the Gulf Coast, was drilling August 27 in hard sand at 7860 feet. There are two other operations on that flank of the field: Yount-Lee Oil Company's Chambers County Agricultural Association 8 is drilling gumbo at 1300 feet, and Sun Oil Company's Chambers County Agricultural Association 3 has set casing at 4641 feet.

The deep, semi-wildcat test, Kirby A-8, of Humphreys Corporation on the northwest side of the dome, is now drilling shale at 5821 feet. Although there are a few producing wells in that part of the field, they are only small ones, producing from Miocene sands around 2500 feet deep. The Humphreys Corporation test is the first in that area drilled in search of production from the Oligocene sands that are proving so prolific along the east and south flanks of the dome.

Similar tests for Oligocene pay are being drilled on the north and on the southwest flanks, both by Mills Bennett Production Company. On the north end is E. W. Barber 1. It originally went to 6262 feet and missed production, although good showings were encountered. It was supposed the test was too far away from the dome, and that assumption was substantiated when a survey of the hole showed it to be crooked. The original hole was then sidetracked around 3550 feet, and it is now drilling at 3966 feet in shale and lime. The semi-wildcat of Mills Bennett Production Company on the southwest flank is Barrow 7. It was formerly a producer from the Miocene at 3900 feet, and drilling deeper, it is now in shale at 4671 feet.

On the south end of the east flank in the area opened by Republic Production Company's Kirby 1, that company's Kirby 2 is now drilling sand and lime at 4330 feet. Yount-Lee Oil Company's Kirby 1 in that area, but south and east of the Republic Production Company producer, is drilling shale at 6154 feet. Yount-Lee Oil Company's Woodward 1 is drilling gumbo at 4956 feet, and Woodward 2 is drilling gumbo at 1073 feet. Sun Oil Company's McKinney 2 is drilling rock at 2074 feet; McKinney 1 is drilling shale and lime at 4306 feet; and Wilburn Fee 1 is drilling sand and boulders at 3253 feet. Mills Bennett Production Company's G. W. Collier 1 is drilling at 2800 feet. Sinclair Oil & Gas Company's McKinney 1 is drilling gumbo at 1782 feet, and Wilburn 1 is drilling gumbo at 720 feet. D. B. McDaniels is drilling shale and lime at 4275 feet in Woodward 1, and lime at 4880 feet in Woodward 2. The Texas Company's Wilburn 1 is a location.

Humble Has Score Of Operations

Houston.—The Humble field is among the most active areas in the Gulf Coast, with nearly a score of operations.

During the past week four oil producers were completed there. In the southeast part of the field, where deep sands are being developed, South Texas Petroleum Company finished two wells. Morris 7 came in flowing 600 barrels of 44 gravity daily from a total depth of 5250 feet, approximately 700 feet of screen having been set in the broken sands and shales from which the production is coming. Morris 9 came in for 1000 barrels of the same grade of oil when about the same amount of screen as in Morris 7 had been set at 5028 feet. Harvey S. Smith, Inc., completed Rosenthal 1 at 4205 feet, having set over 200 feet of screen; it came in flowing 2000 barrels daily, but later sanded up and is now being washed.

In the north part of the field The Texas Company's Kohler 35 came in flowing 200 barrels of 35 gravity daily from 4339 feet. Its House 23 in that area is drilling gumbo at 892 feet. All the other activity at Humble, however, is in the south part of the field.

The Texas Company's Landslide 265 is drilling sticky shale at 5274 feet; Landslide 266 is in shale and sand at 4653 feet; Landslide 267 is rigging up; and Landslide 268 and 269 are derricks. South Texas Petroleum Company's Morris 10 and Lee 1 are rigging up. West Production Company's Foster Lumber Company 1 is rigging up. Humble Oil & Refining Company's Williams 3 is drilling sandy shale at 4139 feet; Williams 4 is rigging up; Williams 5 is a location; Glass 1 is drilling sticky shale at 4995 feet. Continental Oil Company's Wagner 1 is drilling gumbo at 900 feet.

Liberty County Well Still Flowing

Houston.—The discovery well of Esperson or Sheeks dome, southwestern Liberty County, was reported August 27 to be flowing around 400 barrels of pipe line oil daily. Details were still not available concerning the sale of that well, Moores Bluff Corporation 1, together with the 34.8 acre lease on which it is located by Harvey S. Smith, Inc., to the Yount-Lee Oil Company, although the making of the deal was confirmed.

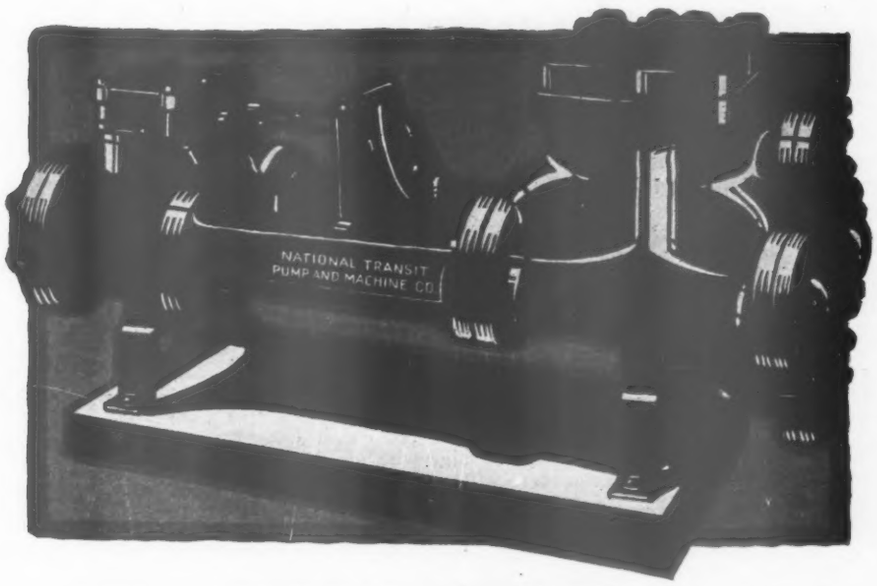
Cranfill & Reynolds Company's (formerly Union Exploration Company's) Esperson 3, second producer of the dome, is expected to be a fair flowing well when present work of resetting screen is completed. It came in originally August 18 flowing 100 barrels of fluid, two-thirds oil, after screen was set 10 feet into the oil sand. A considerable quantity of fresh water, however, was breaking in, and it is hoped that the water trouble will be eliminated by resetting the screen.

Cranfill & Reynolds Company's Vajdak 1 and Esperson 4, north and west offsets, respectively, to the Harvey S. Smith well, are still locations.

Houston.—Kirby Petroleum Company is pulling screen to drill deeper in D. Vaughn 1 on the San Felipe dome, Waller County, having replaced the derrick which was pulled in early in August.

After making an Edwards test which showed a little oil, casing and screen were set, with the bottom of the hole at 3005 feet, but the well flowed only fresh water.

This pump has come to be looked upon as a Super Field Pump by some of the largest producing and pipe line companies in the field. Its rugged construction, its larger capacity of 80 to 120 bbls. per hour, and its higher working pressure of 400 to 650 lbs., overcome many of the limitations of the ordinary field pump. Oftentimes it is used to pump producer's oil direct into the main lines.



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Two Flowing Wells Are Added at Raccoon Bend

Houston. — Humble Oil & Refining Company and Valley Oil Corporation completed two flowing wells at Raccoon Bend, Austin County, during the past week. On August 26 Woodley 2 came in for 400 barrels initial production at 3448 feet, and several days earlier Gotosky 4 was finished for 350 barrels at 3280 feet. In addition three wells of the same interests have screen set in the oil sands and will be put on the beam. They are Walton B-1, which is 3452 feet deep, Buchanan 2, depth 3414 feet, and Reese 3, depth 3516 feet.

Average daily production at Raccoon Bend during the week ending August 24 was 8000 barrels, placing the area among the largest producing fields of the Gulf Coast.

In point of drilling activity, also, Raccoon Bend is among the leading Coastal fields. It has approximately 30 operations, all being Humble Oil & Refining Company and Valley Oil Corporation joint tests. Bracey A-3 is a derrick. Beal 2 is drilling sandy lime at 2418 feet. Bellville School Lands 2 is fishing at 3628 feet; No. 3 is a derrick. Deutrich 4 has set liner at 3388 feet, and No. 5-A is drilling rock at 165 feet. Grawunder A-2 is drilling at 3076 feet in sticky shale; B-3 is drilling shale at 899 feet; and C-2 is drilling sandy lime at 790 feet. Hardy 5 has pulled screen and is reaming to bottom, depth 3222 feet. Diemar 1 is a location. Helmuth 1 is rigging up. Jackson 1 is fishing at 3427 feet, and Jackson 2 is drilling sand and lime at 600 feet. Mitchell B-2 is in sticky shale at 2898 feet. Mueller 3 is rigging up, and Nos. 4 and 5 are derricks. Paine 3 is drilling hard sand at 1511 feet. Sanders 4 is rigging up. Sherrill 2 is drilling shale and lime at 2825 feet. Urban 4 is drilling sand at 550 feet. Walton A-4 is in sticky shale at 2834 feet, and A-5 is a derrick. J. W. Wilson 2, Woodley 3, and Walton 5 are derricks. Walton 4 is drilling shale at 2197 feet.

Pierce Junction

Houston. — Three producing wells and two unsuccessful tests were completed during the past week at Pierce Junction. Gulf Production Company on August 27 completed Taylor 29 for 2000 barrels initial production at 4750 feet. Anderson & Plummer's Whitehead 5 came in flowing 200 barrels daily at 3540 feet. Saxet Oil Company set one joint of screen at 3778 feet in Herman Estate 3, and it came in for 200 barrels, eight per cent. water, and the rest 24 gravity oil. Moody Corporation's Calvert 2 tested salt water at 4960 feet and will be abandoned. Navarro Oil Company and Humble Oil & Refining Company abandoned Dooley 4 at 4909 feet.

Navarro Oil Company and Humble Oil & Refining Company are drilling sticky shale at 5067 feet in Cain 4-A. Rio Bravo Oil Company's Settegast A-14 is rigging up, and Settegast B-11 is drilling sand and lime at 2620 feet. Shaw et al's Dooley 2 is drilling sand and shale at 5630 feet, and has an oil show, and Fitzsimmons-Barrow 3 and Fitzsimmons F-2 are derricks. Saxet Oil Company's Herman 4 is drilling hard lime at 1445 feet, and Herman 5 is a derrick.

Baylor County Drilling Gets Revival

Wichita Falls, Texas.—Baylor County, which has been more or less dormant for a good while, so far as production activity is concerned, is scheduled to have several drilling operations soon. Tentative locations have been made in addition to work already under way.

G. R. Ridgeway's Turberville 1, located in the southeast corner of the Turberville land, J. Decordova Survey, Section 28, Abstract 23, is drilling below 500 feet with a rotary rig. This well is situated near the center of the east line of Baylor County and two miles west of the Boone Ranch in Archer County which is held for future development by Sun Oil Company.

Leasing has been active in Baylor County recently, leases having been taken by Gulf Production Company and Phillips Petroleum Company, which organizations have made locations in the northwest corner of Section 214, T&NO Survey.

Four miles east of the activity in Section 214, Douglas Oil Company et al plan to drill a well in the northwest corner of Section 237, T&NO Survey, Abstract 310, E. S. Wallace Estate.

Near the center of the south line of Baylor County, in the A. Barker and E. Broen Surveys, J. W. Derden et al have acquired a block of acreage and made a tentative location at the center of the south line of the Barber Survey, Abstract 22, C. T. Porter farm.

Sugarland

Houston.—Humble Oil & Refining Company on August 26 completed Camp 5 at Sugarland for 397 barrels initial production at 3590 feet. Several other tests in the field are due to be completed soon.

Nelson 5 (all tests are by Humble Oil & Refining Company) is waiting on cement to set; bottom of the hole is at 3467 feet. In Hamner Fee 7 tubing is being run, with the depth of the hole 3600 feet. Sugarland Industries 9 is drilling sticky shale at 3490 feet.

Bankers Mortgage A-2 is drilling sandy lime at 2469 feet. Deatherage 3 is a derrick. Hagenson 1 is rigging up. Brazos Farms 7 is reaming at 3000 feet; No. 8 is a location; No. 9 is drilling sandy shale at 1742 feet; and No. 10 is a location. Hamner Fee 6 is rigging up.

Gasoline Market Firm With Strong Demand; New Peak Production

(*Continued from page* 39)

promising of the new areas and there will not be sufficient number of completions there to increase production over 30,000 barrels daily from its present output of 35,000 barrels until the first of 1930.

Activity in the Seminole area, including St. Louis, is letting up, and no increase in production is anticipated there, with the possibility that some decline will be registered before the end of the year.

California

Although it will require at least two weeks to determine whether the new gas saving law will prove effective in California, a tone of optimism is being voiced and the crude structure strengthened, even if only superficially. If gas waste is completely eliminated, production will drop almost 200,000 barrels by October 1, but it will be practically impossible to wipe out all vestige of waste in such a short period. The situation is full of complications, although the law states plainly that either wasting or being a party to the wasting of gas will be deemed unlawful. If production is reduced a full 100,000 barrels by October 1, exclusive of the natural decline, the situation will have been so improved that the market will immediately show additional strength.

Late figures released by the Pacific Coast office of the American Petroleum Institute show that total stocks of crude and all products in Pacific Coast territory increased 3,890,740 barrels during July to a new all-time peak of 169,161,139 barrels. Total stock increase for 1929 was 29,160,245 barrels, which compared with only 139,753,307 barrels on August 1, 1928. Refinable crude stocks jumped 1,326,482 barrels during July, while heavy oil stocks, including all grades of fuel, rose 1,784,482 barrels. Gasoline stocks climbed 425,107 barrels to a new total of 14,690,899 barrels.

The increase in storage has caused a shortage of tanks suitable for handling light oils and gasoline. This shortage is not acute but might become so within a short time.

Santa Fe Springs remains the most troublesome area but should start a steady decline within the next few weeks, barring the extensive development of the third Clarke zone. Production is running around 285,000 barrels.

Gasoline for export is plentiful, with prices showing a softer tone. This commodity is offered at 7 cents, with bids averaging about 6½ cents. Domestic consumption is well above that of last year, with the retail market in a fairly healthy condition.

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The exceptional structural strength of the **Improved Getty Solid Wrapped Screen** is due to a superior method of construction developed in the **Getty Factory.** One of the features consists in rolling the mesh of the screen into the T-head of the wire forming solid, substantial, square-faced spacing lugs. During the coiling process, the wire is under severe tension and strong lateral pressure so as to grip the pipe with great firmness, each coil being itself held in a vise-like grip by the adjacent coils. The wrapping is thereby secured immovably in position.

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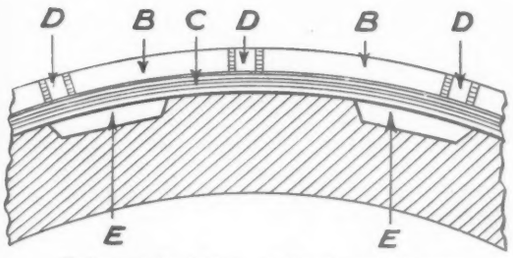
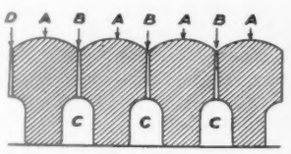


Enlarged End View of Portion of Screen

On account of the rounded top of the wire, the points A-A-A-A receive the abrasion as the strainer passes down the rocky sides of a crooked hole, and the edges of the entry slits B-B are protected. The broad, square-faced lugs, "D" hold the wires immovably in place. The entry slit "B" is slightly larger at the discharge side where the fluid enters the passage way "C" thus permitting the fluid to pass between the wires to the vertical grooves E-E running lengthwise in the surface of the screen pipe.



Enlarged View of Wires in Cross Section

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Louisiana-Arkansas Field Notes

Dixie Extension Well Holding Production Near Initial

SHREVEPORT.—Although it is holding up better than most of the producers in the Dixie district in Caddo Parish, Ray-Dawes Drilling Company's Hunter 2, SW SW Section 9-19-14, completed August 19, at total depth of 2423 feet through 11 feet of broken sand, flowing at the rate of 1500 barrels of clean oil daily, the daily production Saturday had fallen slightly below 1200 barrels.

The well extended Dixie's producing area three-quarters of a mile northeast. While Standard Oil Company of Louisiana already has derrick pattern for a southern offset 660 feet to the south, School Board 1, NW NW Section 16-19-14, the extension producer has not produced the effect that would be expected of such a development. This is due to the lenticularity of the sand. A flowing well may be completed in a 40-acre tract and all the offsets may be failures. This has occurred several times in the brief history of the field. Gulf Refining Company announced location for Hunter 3, Section 17-19-14, giving Dixie two new locations for the week.

While the northeast part of the field was getting extended, a test a mile south and west of production did not fare so well. Haynes Brothers tested dry with only a very slight show of oil in Oden 1, NE NW Section 19-19-14. The hole will probably be deepened.

Slightly over one mile almost due north of the Haynes Brothers test and on the extreme west edge of production, Standard Oil Company of Louisiana added Oden 3, NW NE Section 18-19-14, flowing 57 barrels daily through two-inch tubing from 2420 feet through eight feet of broken sand. In NW NE Section 17-19-14, Gulf Refining Company added an eastern edge well in Hunter 2, which is pumping 17 barrels from 2408 feet. In SW SW Section 8-19-14, Palmer Corporation has standardized Hunter 2, total depth being 2411 feet, and the well is yielding 40 barrels. Sam Gold and associates have abandoned Hunter 2, NW SE Section 17-19-14, as a dry hole at 2450 feet.

Sarepta

On the southern edge of the old Sarepta district of Webster Parish, Magnolia Petroleum Company which has several pumpers in that vicinity, has standardized Sallie Coyle 1, Section 2-22-11, at 2695 feet, and the well is yielding 179 barrels of oil and 80 barrels of salt water daily.

Magnolia Petroleum Company continues drilling ahead in McCook and Hibbler 1, Section 22-21-10, Cotton Valley district, Webster Parish, the deepest hole ever drilled in North Louisiana. A red sandy shale is now being cored at 6733 feet.

In Caddo Parish, Louisiana's deepest test, Dixie Oil Company's Robertshaw 92, Section 13-21-15, is being bailed for a test at 6351 feet.

The week's completions list was comparatively brief. Aside from the Dixie field producers, Caddo Parish added three producers, all in Pine Island, with a combined initial yield of 252 barrels, and the Winn Parish extension of the Urania field accounted for a 60-barrel pumper, completing the list of North Louisiana producers for the week.

Arkansas was unusually quiet, three perforated wells in Smackover accounting for a combined yield of 80 barrels of oil and 510 barrels of salt water.

Six gassers in the Monroe gas field, five in Ouachita Parish, and one in Union Parish, and one gasser in Champagnolle, Union County, Arkansas, completed the list of gassers. The latter well is Magnolia Petroleum Company's Alice Gregory 1, Section 15-17-14, on the south edge of Champagnolle, which is making 24 million feet of dry gas from 2841 feet.

South Arkansas is experiencing an unusually quiet period. Only seven new locations for that territory were made during the week, six being in Smackover, three of them in the northeast part of the field, which recently was extended a quarter of a mile. One wildcat location was made, Simon and associates, announcing plans for drilling Welch 1, Section 30-19-17, Union Conuty.

With one 20-barrel producer recently completed and a second, L. & A. 49, Section 17-7-2e, ready for test, Tunica Petroleum Company has announced location for two other tests in the White Sulphur district. The new locations are for L. & A. 50 and 51, both in Section 16-7-2e. These with the two new locations in Dixie comprise the majority of the seven new locations in North Louisiana.

Three wildcats were included in the abandonment list for the week. Ohio Oil Company tested dry in Stout Lumber Company 1, Section 31-14-12, Calhoun County, Arkansas, while in Columbia County, T. R. Brown and associates met a similar result in Spencer 1, Section 18-18-22, total depth being 3505 feet. In the Howard district of DeSoto Parish, Benedum and Trees, abandoned State 2, Section 22-14-12, as a salt water hole at 3690 feet. This is the second test abandoned by this company in that vicinity in recent months. State 1 tested over 20 million feet of gas around 2600 feet, along with some salt water, but was a failure when deepened.

W. M. Coates, Trustee, is still waiting for 6⅝-inch casing to set in McDuffie 1, Section 32-19-16, which has total depth of 4056 feet. After setting 6⅝-inch casing at 2756 feet in Wilson A-2, Section 25-15-18, Ouachita County, Arkansas, McDonald Oil Corporation cored two feet below the total depth of 2763 feet and is arranging to bail. This will be the next test for the Mount Holly district. Kouri and associates are drilling at 2500 feet in A. Wilson 1, Section 24-15-18. E. M. Jones, after testing salt water in a drill stem test from 1655 to 1669 feet drilled ahead and now has a fishing job at 2313 feet in Wilson A-1, Section 26-15-18. In Section 2-15-17, Copenhaver and associates are shut down waiting orders at 1100 feet on Warnick 1, Section 2-15-17.

New DeSoto Gas Area

Possibility of another gas producing area in DeSoto Parish looms as the result of a gas show in Fair and associates' Hamilton 1, Section 1-12-13. After setting 6⅝-inch casing at 2668 feet, operators tested three million feet of gas before the well bridged. After the bridge was cleaned out the well went dead. Total depth is 2790 feet.

J. P. White has again tested salt water in Chess Wymond 1, Section 32-19-6e, Morehouse Parish, between the Monroe and Richland gas fields, and is arranging to deepen from 2777 feet where the last test was made.

With two producers with a combined daily yield of 167 barrels already completed, the first of which has flowed at a steadily increasing rate since December 1 last year when it came in making 50 barrels, its daily gauge now being 115 barrels, R. L. Gay, Trustee, and H. D.

"Here, Lad—

After going through the list of plants you gave me, I can see from records that they were justified in changing to 'Linc-Weld' motors.

But, I am still afraid that the finish of the welded frame is not quite as smooth as that of the old fine cast frame motor we're using.

You can feel the difference as soon as you touch it."

"Linc-Weld" Superiority is due to:

1. **Larger Shafts**
2. **Larger Bearings**
3. **Better Insulation**
4. **Stronger Frame (Steel)**
5. **Greater Overload Capacity**

"Yes, Pop—

Your motor has a skin you love to touch—but I can think of lots more fun than petting motors.

Go back in the plant and touch the cast motor that's running the new machine we have on test, and you'll want to put your hand on a 'Linc-Weld' motor to cool it off.

Under its steel skin, 'Linc-Weld' has extra size bearings, extra size shafts, extra plastic insulation, extra ventilation, due to steel frame—extra overload capacity.

Those are *substantial* things to fall in love with. Too often a man falls in love with a dimple and makes the mistake of marrying the whole thing."

The Lincoln Electric Co., Dept. No.33-8, Cleveland, Ohio

"Linc-Weld"

M-50

LINCOLN MOTOR

News From Rocky Mountain Fields

Easton are drilling tough gumbo at 1432 feet in Bowman-Hicks 4, Section 14-7-14, a western offset at 700 feet to the first well of the Zwolle field in Sabine Parish.

The same operators are shut down at 2813 feet in Sabine Lumber Company, Section 23-7-14, southwest of the two wildcat producers, after hitting a gas show. As soon as a new engine and drawworks are installed at this test, the next few feet of sand will be cored. Meanwhile the same operators are rigging up Bowman-Hicks 1, Section 34-8-12, which will be a deep test.

Nichols and Wilder are rigging up for a new wildcat test in Clark 1, Section 10-16-8w, Natchitoches Parish. Phillips and associates are making slow progress in School Fee 1, Section 16-16-4e, Ouachita Parish, making only 25 feet the last week. Drilling is now under way at 4325 feet.

W. F. Hyde has spudded in Chickasaw Implement 1, Section 24-23-11e, West Carroll Parish, and is drilling at 100 feet.

More Drilling Permits For Louisiana in 1929

Shreveport.—Drilling activity in Louisiana for the first seven months of 1929 was far ahead of the corresponding period in 1928, according to figures just compiled by the Minerals Division of the State Conservation Commission, W. F. Chisholm, supervisor.

A total of 514 drilling permits have been issued up to August 1, this year, as compared to 415 issued to August 1 for 1928. Total permits for all purposes, including 318 abandonments, for the first seven months of this year were 921, as compared to 799 for the first seven months of 1928.

July, 1929, was far ahead of that month in 1928, 85 drilling permits being issued for that month this year, as compared to 50 in July 1928.

Activity in Dixie field was reflected in Caddo Parish drilling permits during July, 25 being issued.

North Devon

Great Falls, Mont.—One of the most interesting wells to be completed in Montana for some time past is the Vashti Petroleum Company's McDonough 1 on the North Devon structure in Toole County, SW Section 17-33-2e which encountered a flow of four million cubic feet of gas in the Colorado shale, 768-798 feet. It is believed an established fact now that a considerable quantity of gas can be developed in this territory, although how long shallow gas of this sort will hold up is problematical. There are to be several more wells drilled in the area in the near future.

Orchard Oil Company Acquires Leases

Casper, Wyo. — Orchard Oil Company has taken over the operations and holding of the Producers & Refiners Corporation in the Oregon Basin field, northern Wyoming. The acreage acquired consists of parts of the Owens, Atherly, and Frisby permits, about 2500 acres in all — of which at least 1000 acres is in the proved producing area of the field. There is a producing well good for 500 barrels on the Frisby lease, and two drilling wells, one on the Owens and one on the Atherly properties.

Garland Dome

Garland, Wyo.—The Producers & Refiners Corporation has made an interesting discovery in its test on Garland dome east of here. At 4185 feet it has a flow of three million cubic feet of gas, coming either from the lower Embar or the top of the Tensleep sand. Boilers are being moved back, and when this is completed, the well will be drilled in. Developments are expected to be interesting.

Salt Creek Lease

Casper, Wyo. — The famous "Section 36" of the Salt Creek field, Natrona County, Wyoming, will be leased to the highest and best bidder by the state land board in Cheyenne on September 30, and it is expected that many of the major operators in this territory will bid for this rich lease. Midwest Refining Company has registered its claim for an equity of $1,500,000 for permanent improvements it has erected on the property. That company has always produced Section 36, and may again if its bid is accepted.

Osage Field

Osage, Wyo.—Operations in the Osage field, Weston County, eastern Wyoming, have been particularly active during the last several months, ever since the good discoveries were made in a deeper producing sand in the southwestern part of the old shallow field. The field now produces about 1000 barrels per day, of which about 750 barrels is marketed through pipe line, and the remainder refined locally.

Attack Tax on Interstate Pipe Line

Santa Fe, N. M. — State Corporation Commission's right to levy an inspection tax on interstate oil pipe lines in New Mexico is attacked in an injunction suit started in the district court of Santa Fe County, by J. M. Hervey of Albuquerque, an attorney for Humble Oil & Refining Company. New Mexico has a law which charges the Corporation Commission with the duty of inspection of oil pipe lines and which authorizes it to impose a tax of one-tenth of a cent per barrel to pay the expenses. The suit attacks this law insofar as it seeks to make it applicable to interstate lines.

Utah Wildcat

Casper, Wyo.—Another wildcat well in its extensive program in the Mountain States was announced by Midwest Refining Company last week for its operating subsidiary, Utah Oil Refining Company. The well is to be on the Pariah structure, sometimes called Butler Valley dome, in southwestern Utah, in the general vicinity of the famous Brice canyon. The exact location is not announced; well is to be drilled during the winter and will be of particular interest to all operators in the region.

Colorado Wildcat Test

Denver, Colo.—Two wildcat wells of interest were announced for Colorado last week. The M. T. Smith & Sons interests of Oklahoma City, will drill Middlemist 1, on the Middlemist structure in Washington County at the southern end of the Ft. Morgan uplift, 38 miles south of Brush. San-Jo-Ar Development Company will drill a test on a structure in the Aguilar district in Las Animas County, southern part of the state.

Cut Bank Structure

Great Falls, Mont. — Drumheller et al reported last week that their Yunck 1 on the Cut Bank structure, about 20 miles west of the Kevin-Sunburst field, was spraying high gravity crude oil over the crown block from the Sunburst at 2751 feet. Well is being drilled in with a control head, and has caused much excitement in oil circles in Montana, apparently being another new field in the proving.

New Leasing Office

Casper, Wyo.—The mineral leasing division of the United States Geological Survey has created a new district for its supervision. It will consist of the State of South Dakota, and will be under the direction of R. J. Reeves of Billings, Montana, office. There are several interesting wildcat wells being drilled in South Dakota at the present time which will now receive specialized attention of the survey.

It cost him $980.00 *just because he failed to . . . . .*

Driller Smith has a fishing job. He borrows a fishing tool from Driller Jones on the next location. Driller Jones has A. P. I. joints but Driller Smith has not. The tool won't fit so he goes to the machine shop and has it recut, losing one half day. While he is shut down his pipe sticks in the hole. He loses ten days and the fishing job costs him $1,000.00. He failed to standardize. If he were using "Brewster" A. P. I. joints his loss would have been about $20.00. *Think it over.*

Branch Warehouses, where complete stocks are maintained: 2000 Harrington St., Houston, Texas, Phone Capitol 3021; Red Ball, Inc., 2-4 East California St., Oklahoma City, Okla., Phone W-3680.

Distributors: Wilson Supply Co., Houston, Beaumont and Luling, Texas; Murray-Brooks Hdw. Co., Lake Charles, La.; T. T. Word Supply Co., Houston, Texas and Lake Charles, La.; The Ellis Iron Works, Inc., El Dorado, Ark.

BREWSTER A. P. I. *Tool Joints* are in demand the world over.

The Brewster COMPANY ~ INC.
SUCCESSORS TO OIL CITY IRON WORKS INC.
Shreveport, Louisiana

Drumright Engineering Section Studies Belt Problems
(Continued from page 24)

dience an exhibit of the various types of clamps, including saddle back, hinge, hooks, belt lacing, and rivet clamps.

Decker following upon the heels of Wright also urged the proper care of the belts as a means of prolonging their life. "Clamps failures are due mostly to misalignment, loose bolts, improper placing of bolts and improper size of bolt holes", he said.

Exhibit of Clamps

L. B. Holland, Phillips Petroleum Company, Bartlesville, and sponsor of the Burbank chapter of the A. P. I., was called on at this point to make a few comments on clamps. "Bolts should not take the strain of the belt, but unfortunately they have to." Holland also had a few exhibits of the various types of clamps in use, exhibiting a very interesting one that weighed 19½ pounds. He explained that he had had the best results from the saddle back when using a double saddle. On the bolts holding a saddle back clamp together is a large and a small washer which must be cross wise of the belt to do the job properly, he explained. He has been experimenting the past few months with the use of saddle back clamps on motor belts. Thus far the experiment has not gotten far enough along to tell much about it, but it gives promise. In his experiment Holland has used only one-quarter-inch bolts on the motor belts instead of three-eighths-inch bolts used on pump belts.

Mr. Meyers of Shell Petroleum Corporation at Tonkawa, who was given much credit by Mr. Holland for the development of the saddle back clamps, gave a few remarks in which he stressed the negligence of the present day roustabouts. "They don't like to install a large number of bolts as a saddle back clamp requires and become careless in installing the clamp, consequently you soon have a job that is giving you trouble.

"Do not put the bolts right behind each other, as you will be pulling on the same threads in the belt, and not giving the belt an even pull. Place the bolts in the second row between the spaces of the bolts in the first row," he said.

Meyers does not believe in twisting the belting, that is over one pulley and under the other one.

Trouble From Overloading

"Much belt trouble is due to overloading by pumping heavy wells or water producers, with the clamps giving the greatest part of the belt trouble. There are many good belts on the market, if proper care is seen that they are not over-loaded and that the clamps are properly fitted and kept tight", stated Beecher of the Gypsy Oil Company.

C. E. Sutton, with the Pure Oil Company, went on record as strongly in favor of keeping belt records. But the question has always been, he said, what to do with them after you had the belt record, which should mean service record. Sutton believes he has an excellent method of determining the actual service record of a belt despite the various handicaps different belts on different jobs encounter.

First, he takes the depth of the well in feet; second, the weight of the well, calculated on the weight of the output; third, number of 24-hour days the belt is in service; four, cross section of pump in the well; five, cost of belt per 100 feet; and six, maintainence cost of well, record of time to repair belt and cost of materials used in the repair. Sutton then multiplies the 1, 2, 3, and 4, above given units, divides by 100,000,000 (to reduce the answer to 1 or 2 whole numbers and a decimal) then multiplies by cost of 100 feet and maintainence. He also has a second formula figuring on the per ton day, or cost per barrel.

Sutton has been using larger bolts, which temporarily relieve the belt from breakage. He has also been using wider belts, in some cases 22-inch, which give better service due to less tension per width.

General concensus of opinion among the superintendents, engineers and field me present was that a marked improvement had been noticeable in the type of belts, however, a much stronger clamp was needed, and that many of them were turning to the endless type. Much stress was placed upon the application of the clamps, keeping true alignment, keeping bolts tight, and belt as free from dirt and other foreign matter as possible.

The next meeting of the Drumright chapter will be on September 17. E. L. Bell announced that Carl A. Young, director of the A. P. I. Division of Standardization of Dallas, has tentatively agreed that he will be present at this meeting to talk on "Standardization." The meeting in October will take up "Air and Gas Injection or Repressuring."

Santa Barbara

Santa Barbara, Calif.—The usual "feeling-around" process is under way in the Santa Barbara Mesa field, where one of the most expensive drilling campaigns of recent years in Santa Barbara County has about been completed. Not content with developments, a few of the more persistent operators are trying to make producers of apparent failures. The idea of a deeper sand is growing, but the broken formation around 2200 feet has acted as a barrier against further development.

General Petroleum Corporation, which acquired the principal leases of the Olympic Oil & Refining Company soon after the field was discovered, has quitclaimed the holdings and they have reverted back to the original lessee. Olympic Oil & Refining Company will continue to develop its leases and probably will place the discovery well on production again. This producer started off with a flow of 1200 barrels, but a high percentage of water was looked upon with suspicion from the beginning.

The Board of Supervisors of the Santa Barbara County hospital has announced that it will receive bids for drilling the hospital tract, all bids to be submitted by September 16. The royalty has been set as one-sixth of the gross production, with drilling to start within 60 days after the award is made. The successful bidder will be determined by the largest cash bonus offered.

Producer at Summerland Starts Rush

Summerland, Calif. — Success of the Lincoln Drilling Company in the Summerland field has resulted in an active leasing program, with some of the major companies participating. The recent completion of a 300-barrel producer at only 1400 feet is not regarded as a sensational development, but it will have a direct influence upon drilling in the future. The presence of a producing sand at 1000 feet was suspected, but the discovery well was larger than expected. The shallow wells in the district have been producing for more than 40 years and operators had begun to think in terms of very small production.

Associated Oil Company will develop the Southern Pacific right-of-way, which directly offsets the Lincoln Drilling Company's first producer. The well has been located about 200 feet northeast of the first producing well.

Apparently the sand from which production is obtained around 1000 feet plunges toward the ocean rapidly, much in the manner of the very shallow sand. If this proves to be a case, total producing area will be small and confined to a strip along the beach.

Huntington Beach

Huntington Beach, Calif. — At least three companies are considering deep tests in the Huntington Beach field and it apparently will be only a matter of time until the area will be drilled for producing sands which correspond to those found in other Los Angeles basin fields. V. R. G. Wilbur has announced that he will make a deep test of his Twining 1, which is now drilling at 4075 feet. Present plans call for a maximum depth of 6500 feet. Of the other companies considering deep tests, none has definitely announced its plans.

Los Angeles.—Ohio Oil Company has drilled through substantial streaks of oil sand between 3800 feet and 4000 feet in Recreation Gun Club 1, a wildcat test near Venice, and may test the showings if something better is not found at a greater depth.

SERVICE

With every drum ~ at no extra cost

In order to assure perfect satisfaction, we maintain a force of trained representatives in every field where "Cut Oil" is found, to instruct in the use of the Tret-O-litE Process for recovering oil from Petroleum Emulsions.

You no doubt know the Tret-O-litE men in your district. Don't fail to call on them when you experience emulsion troubles. They are ever ready to serve you and work with you for the purpose of reducing your treating costs to a minimum.

Use our experience without cost to you

WM. S. BARNICKEL & COMPANY
ST. LOUIS, MO.
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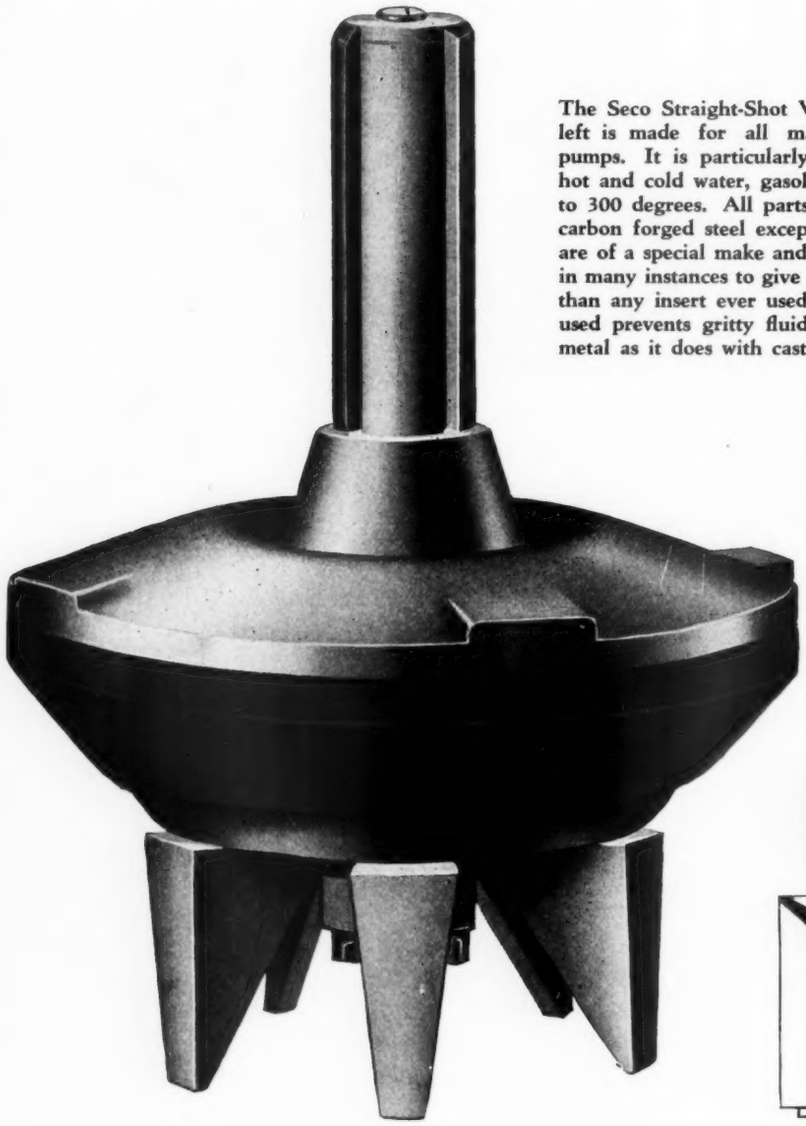
Tret-O-litE

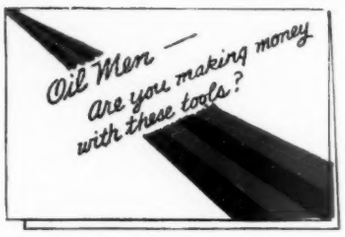
Reg. U. S. Pat. Off.

A Pump Is As Good As Its Valves and Pistons



The Seco Straight-Shot Valve shown at the left is made for all makes and sizes of pumps. It is particularly adapted to slush, hot and cold water, gasoline and hot oil up to 300 degrees. All parts are made of high carbon forged steel except the inserts which are of a special make and which have shown in many instances to give 100% more service than any insert ever used. The forged steel used prevents gritty fluids from eating into metal as it does with cast parts.

[Send for this FREE illustrated folder of all Mission Tools. You can save money by reading it. Write for your copy today.]



MISSION

Sales Company, Inc.,
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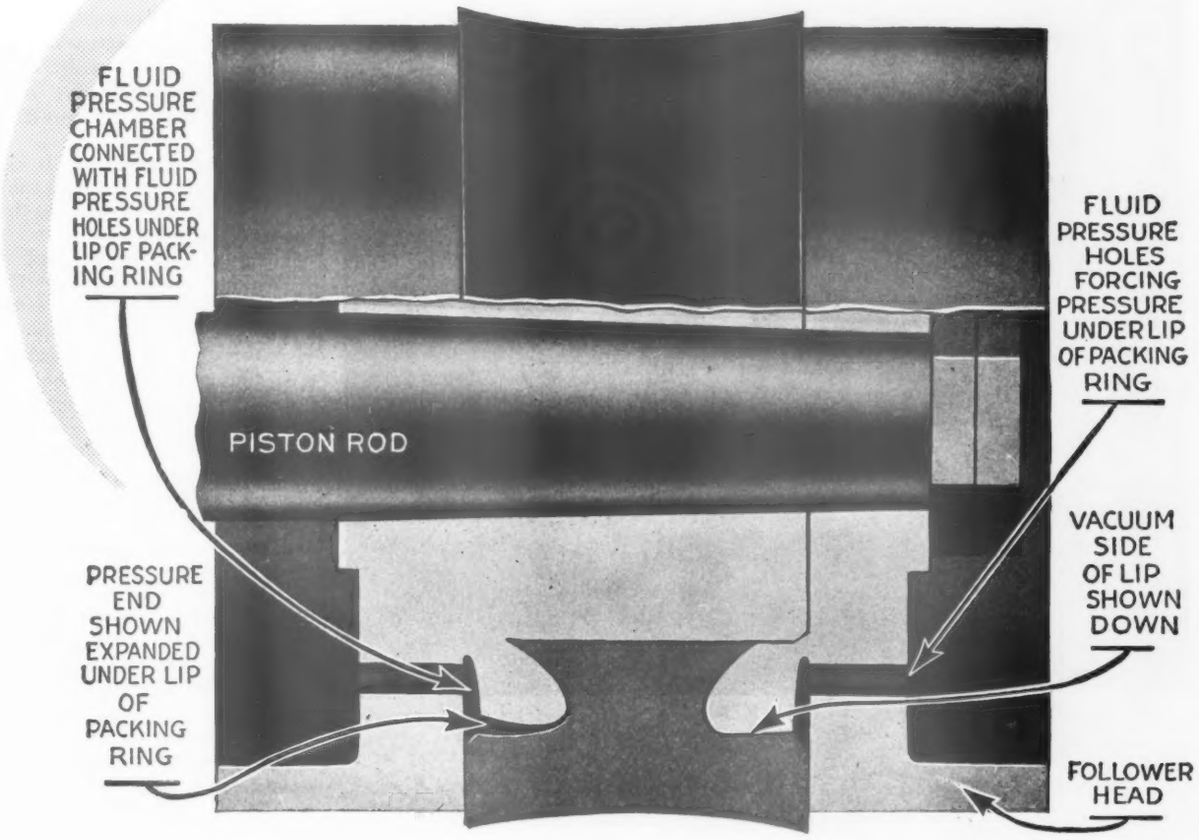
HOUSTON

A Pump Is As Good As Its Valves and Pistons


FLUID PRESSURE CHAMBER CONNECTED WITH FLUID PRESSURE HOLES UNDER LIP OF PACK-ING RING
FLUID PRESSURE HOLES FORCING PRESSURE UNDER LIP OF PACKING RING
PISTON ROD
VACUUM SIDE OF LIP SHOWN DOWN
PRESSURE END SHOWN EXPANDED UNDER LIP OF PACKING RING
FOLLOWER HEAD

The Kibele self expanding and frictionless piston shown above is made for rotary drilling slush pumps, boiler feed and oil pumps. It is made to fit any pump and no special rod is required. The working parts of the piston are shown in the illustration. The rubber is compounded to our own specifications. Pistons are of exceptionally close gray iron with outer surfaces chilled.

See Pages 214 and 215 in the Composite Catalog of Oil Field and Pipe Line Equipment.

MISSION
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HOUSTON

Heat Treatment of Steel

(*Continued from page 32*)

FIGURE 10
A Forging Furnace-Oven Type

Molten Bath Furnaces

Temperature of a piece of steel should be uniform throughout when quenched, else warping and cracking may take place in the quenching bath. There is only one certain method of securing temperatures even throughout an irregular shaped piece of steel, which is the molten bath furnace, using molten salts, or lead for hardening, and lead, salt or oil for drawing.

The reason for this is that, to cause a heat flow from the furnace atmosphere of an open furnace, the furnace atmosphere is usually carried considerably higher than the temperature of the steel being heated, setting up a differential in temperature between furnace atmosphere and the steel. Since thin sections heat more quickly than thick, this differential raises temperature of the thinner sections faster, and higher than of the thick sections, and when the thick sections are up to the required heat, the thin sections are overheated, making the thinner part crack when quenched.

The molten bath furnaces eliminate this difficulty, for, in direct contact with the bath, there is a low temperature differential between the bath and the steel being heated, so that the whole piece of steel may be heated uniformly without overheating the thin sections more than a few degrees above the thick sections.

There are certain mechanical difficulties with molten bath furnaces that argue against their use, one of which is pot deterioration. But this difficulty is avoidable in a correctly designed pot furnace. The writer developed such furnace and has been using the same in sizes ranging from a 20-inch diameter pot down to a 10-inch diameter pot for some time, without excessive pot failure.

Pot Failures

The cause of pot failure, using cast iron pots, may be traced to several causes. One is scabs in the iron, caused by sand falling off in the mold and being included in the casting. A scab free casting does not fail locally.

Excessive temperature is the cause of most pot failure. Furnace manufacturers do not wish to operate at temperatures greater than 1600 F.

Using a steel in fish tail bits with a hardening temperature of 1750 F., the writer developed a furnace that prevents flame impingement in the combustion chamber, and which sends over to the pot a steady, gentle flow of high temperature furnace gases, without flame, contacting the pot evenly around its circumference, securing a uniformly long pot life.

The alloy pots — both ferrous and non-ferrous — particularly the chrome-nickel alloys, without iron, are particularly resistant to scaling and burning and even though the price is rather high, this type of pot secures long life. The lesser alloys of chromium and nickel with iron are also more resistant to heat than plain cast iron, or pressed steel.

The salt bath furnace is especially adapted to heating uneven sections. The blade of a fish tail bit, immersed to the required depth in a salt bath furnace, is heated evenly and uniformly all the way across, and the even heat so secured is particularly effective in avoiding the cracking due to uneven heating in the usual type of bit furnace.

Figure No. 11 shows bits being heated

FIGURE 11
A Taper Fishing Tap made of medium carbon steel, which fractured on quenching

THE ONLY BOMB BETTER THAN A ZERO HOUR BOMB IS TWO ZERO HOUR BOMBS - - - - - AND THAT'S THE ZERO HOUR DUPLEX

Super-ECONOMICAL

.. this new

DUPLEX Zero Hour Electric Bomb

Plug and Socket Connectors ... Improved Firing Pin

As a Kansas superintendent put it: "We can't afford to turn down the advantages of the new Duplex Bomb—for the few extra dollars it costs to buy one." Which illustrates the difference between *cheap* oil well detonators and *economical* oil well detonators. In buying detonators, as in buying machinery, transportation or other commodities, the thing that will do the work positively, accurately and safely is the most economical.

The new Zero Hour Duplex Electric Bomb is 99, 94/100% perfect. The chances of its failure to operate are too small to be computed in ordinary mathematics. These figures are what interest the operator who has a large investment and good opportunity for profit in an oil well that is completed and ready to shoot. He figures that the loss of time and production in cleaning out over a buried shot, let alone the danger, might cost him more than the price of any number of Zero Hour Duplex Bombs, one of which virtually eliminates that hazard. Hence the widespread conviction, among operators, that the new Zero Hour Duplex Electric Bomb, although it costs a few dollars extra, is something they "can't afford" to pass up.

Two Bombs in One

The Zero Hour Duplex Electric Bomb is, in effect, two bombs in one. The original Zero Hour Bomb, which contains one watch and one set of blasting caps, has been duplicated in the same size container, to the extent that it has two watches and two sets of blasting caps. In this way, two timing mechanisms, each independently powered by its own watch, are enclosed in the same metal, fluid-tight container which formerly held one only. Other new features include an improved firing pin, which can be moved backward and forward any number of times, in testing, without altering the firing point from "0," at which it is originally set. A new "plug and socket" method of connecting electric igniters and blasting caps materially simplifies loading operations and assures perfect electrical connections. Specify the Zero Hour Duplex Electric Bomb for all shooting.

Zero Hour Bombs are obtainable thru all principal torpedo companies

Zero Hour Electric Bomb

ZERO HOUR TORPEDO COMPANY, 408 COSDEN BLDG., TULSA, OKLAHOMA

75 years experience

"Between the world and the elements"

Application of Barrett Pipe Line Primer

THE same uncompromising standards of quality—and of *service-and-inspection* — which have made Barrett Specification Roofs and Tarvia distinguished above competition are supplied by Barrett in the application of Barrett Anti-Corrosion Specifications for pipe lines.

Barrett Anti-Corrosion Specifications are the result of The Barrett Company's unmatched 75 years' experience in the waterproofing business—three-quarters of a century's familiarity with the properties and performance of coal-tar pitch. Pipe line builders and owners have cooperated in their development. The result is a group of products and a plan of application, backed by vigilant Barrett inspection, that assure owners maximum protection against corrosion, etc., much longer usefulness of lines, and consequent important maintenance economy.

The *base* of Barrett Anti-Corrosion Specifications is the finest coal-tar pitch — preeminently the greatest known waterproofing agent — combined with solvents, binders, etc., according to exacting Barrett Specifications. As indicative of the kind of protection these Barrett Anti-Corrosion Specifications provide, there are available thoroughly authenticated records of Barrett waterproofing materials which have been in use for 40, 50 and even 60 years which are giving thoroughly waterproof service today.

In addition to the outstanding quality of these materials and the most up-to-date methods of application, The

assures the value of Barrett "ANTI-CORROSION SPECIFICATIONS"

Barrett Company is organized to give builders of pipe lines the closest and fullest cooperation. Barrett engineers, chemists and other experts will assist you in every way — in making quantity surveys, drawing up specifications and aiding whenever possible throughout the course of the job.

Sling or "granny rag" method of applying Barrett Pipe Enamel

Close-up of one method of applying Barrett Pipe Enamel by revolving pipe. The pipe turns away from pouring operation and the "pad" held by operator on opposite side spreads the Coating to an even flow.

BARRETT ANTI-CORROSION SPECIFICATIONS

BARRETT PIPE LINER PRIMER — BARRETT COLD-COATER
BARRETT PIPE ENAMEL — BARRETT PIPE LINE FELTS
BARRETT COUPLER COMPOUND

THE waterproofing agents used with Barrett Anti-Corrosion Specifications are produced from the finest grades of straight-run coal-tar pitch combined with proper solvents, binders, etc. Made to meet all the many different conditions of pipe line construction, Barrett Anti-Corrosion Specifications include, re-enforced enamel for rivers, swamps and other extreme conditions; enamels to be applied hot in less corrosive sections; cold applications for still less corrosive parts.

Barrett Anti-Corrosion Specifications assure protective pipe coatings which are high in dielectric properties—non-porous, non-absorbent and chemically inert.

For information on pipe line protection you are invited to phone, wire or write

The Barrett Company

40 Rector St., New York

in a flame heated furnace, with the blast of flame coming in from the upper side of the furnace, striking the opposite side, then turning down on to the bit.

Results from this type of furnace, when checked for hardness, show that it is not possible to heat a blade uniformly across its width, for the hardness varies from one side to the other. In some cases, the hardness of an average bit steel showed at 712 Brinell on one side of the blade, and 430 on the other side, meaning that the hard side would crack off in the hole, while the soft side is too soft for effective cutting work.

Cracking, in this particular steel, was unavoidable in the flame heated furnace. But upon using the same steel, in a molten salt bath furnace, cracking disappeared, and what looked like a poor steel, turned out to be an excellent grade of bit steel.

It will be noted that the molten bath furnace permits local heating. For instance, it is not desirable to again heat the shank of a fish tail bit after it has been heat treated; that is, it is not desirable to heat the shank to critical temperature again, for the grain refinement secured in quenching and drawing, is lost, together with the strength of the finer grain.

Muffling the upper part of the bit while the lower end of blade is immersed prevents heating any part but that desired. Cutters with projecting teeth, and all such parts that require a strong support, are handled to much better advantage in this type of furnace than in flame heated furnaces.

Heating for hardening, as a general rule, should be done slowly and uniformly, as well as thoroughly all the way through the piece. The lowest temperature above the critical range that will secure the desired results is always the temperature to use, for any higher temperature coarsens the grain needlessly.

The highest temperature to which a piece of steel is raised fixes the grain structure. Even though the piece may be cooled somewhat, and then quenched, it still takes the grain of the highest heat. Then, it is good practice to "harden on a rising temperature," for in that manner, there is no excessive temperature reached.

The writer uses a temperature ranging from 25 to 50 degrees above the critical temperature. For instance, if the critical temperature of a steel is found at 1525 F., the quenching temperature would be 1550-1575 F., while if the critical temperature is 1700 F., as in a low tungsten steel, the quenching temperature would be 1725-1750 F. to fix in the steel the grain formed at this rise above the critical.

Testing Bits

There is no universal factor of wear resistance of steel. There is no factor of any kind that the writer has been able to find or devise. In making abrasion tests of fish tail bit steels, cutting various kinds of hard formations, the results obtained vary widely. Granite, for instance, is usually thought of as fairly uniform in structure and hardness. As a matter of fact, granite has hard and soft streaks and spots, and for abrasion testing, is useless. It creates wear, of course, when a sharp fish tail is rotated on it with pressure, but variation from hard to soft is

FIGURE 11-A
A Heat Treated Fish Tail Bit, showing the relative hardness of various parts of the bit

such that no comparison can be made of steels for abrasion when used for cutting granite. Basalt, quarts and other hard formations are equally as irregular in hardness and abrasion.

Artificial abrasives, bound together by a matrix of cement or rubber, are also irregular and useless as a means of making comparative tests of abrasion.

It is not possible to make exact comparative tests in the drilling of a well with fish tail bits, or any other kinds of bits, for when following one bit with another, the formation changes.

Then, when attempting to make tests of steels in fish tail bits, or of one kind of bit with another kind, the only accurate method is that of making and keeping records on a comparative basis, of wells drilled over a long period with one kind of steel, with the record of wells in the same relative formations with other kinds of steels.

To test out steel, then, is not a matter of running half a dozen bits and then a half dozen other kinds, but is more a matter of drilling many wells and comparing total average results of many runs.

The basis of knowing what is correct, however, is the best basis. We know today that certain kinds of steels, over a period of years, have proven best by test, and when such steels are used, with exact treatment for bringing out the desired qualities, we are sure that we are right and that the best is being obtained. This naturally requires experience with treated steels on a comparative basis with untreated steels.

Hard Surfacing

The non-ferrous alloys, so many of which are used nowadays for facing cutting edges by welding on, are not suitable for use except when supported by a strong base, because of the inherent brittleness of this class of cutting material.

The cobaltic alloys, sold under various trade names, are very brittle, but possess red hardness. They cannot be forged or machined, but must be cast or welded.

It might be interesting to note that the writer originated the method of applying red hard facing material to core barrels and bits, in 1922, and quoting from a letter of a maker of such alloys, this manufacturer advised under 1923 date, that this material is not adapted to facing core barrels and bits because of its brittleness. Notwithstanding this, however, this material has come into wide use for facing fish tail bits, extending over the world.

After considerable investigation of the matter, the writer has the following to say. Where heat is generated, and a formation is not hard, the red hard properties of cobaltic non-ferrous alloy makes it of considerable value in facing the cutting edges of bits. In drilling gumbo with the rotary, and shales, clays, soft lime and similar formations, that do not require heavy pressure of pipe on top, then, faced bits are of considerable value.

But, in harder formations, such as sand rock, hard lime rock, flint, where higher tool pressure is necessary, to make the bit dig in, faced bits, being brittle, break off quite readily.

In applying facing material with the acetylene torch, the heat needed for welding on plating material, is such that the steel base — the fish tail bit blade — is overheated — the temperature required for plating being over 2300°F. This high temperature destroys the fine grained structure of steel necessary for toughness, and when so heated, the bit blade itself is also rendered weak, and it breaks off in rough drilling as in rock.

Breakage is difficult to determine, for, after the point has broken off, continued drilling wears the blade smooth, so that when pulled out of the hole, there is no evidence of breakage. But, after running a number of such bits, and then running a basket to pick up what might be on the bottom of the hole, many bit points were recovered, showing that practically every bit so run broke off at the points.

A bit should withstand a heavy blow of a 12-pound sledge directly on the point, to prove it safe enough to run in the hole. No plated bit can withstand such blow, while a properly treated solid blade should withstand such blow, repeatedly. This is a rough test, but a good test.

The writer has seen the point of plated bits break off by simply swinging against the rotary, while hanging in the drill collar, preparatory to going in the hole. This is rather a light blow — much lighter than the shocks set up by rotating and bouncing several tons of pipe on top of the bit.

The conclusion then is that plated bits are good for soft formations only, and that when rock is struck, a plated bit should be pulled and a rock bit used.

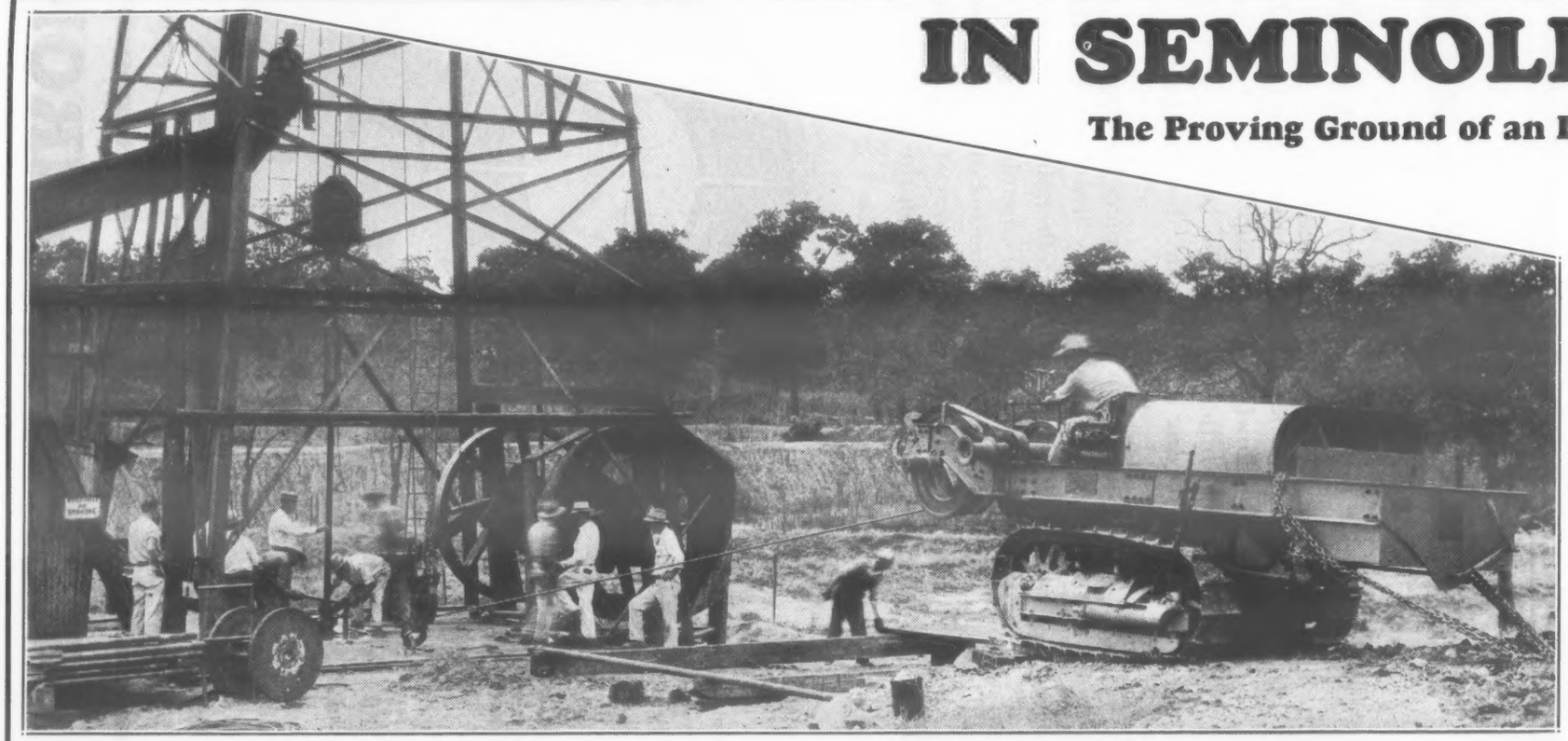
The cost of plating material has reduced from seven dollars per pound, when the writer first used it in 1922, to approximately three dollars per pound today — no doubt due to greater volume of business and competition.

It might be added, however, that for holding the gauge of tools, side plating is of considerable value in bits. Side whip in the hole is not of such magnitude as will break off the bit or the material, especially where the blade is relatively thick, furnishing ample support.

This is the fourth installment of an article of length on heat treating by Mr. Pennington. Another installation will appear in an early issue.

IN SEMINOLE

The Proving Ground of an Industry



Pulling 4,300 feet of 3-inch Upset Tubing WITH THREE LINES

Allsteel Winches Have Proven Their Mettle

ALLSTEEL WINCHES mounted on "Caterpillar" tractors are showing their sterling worth all over the mid-continent field as well as in foreign countries.

This efficient double winch with six speeds forward and two reverse, with its efficient double brakes, accomplished in the Seminole field what no other winch has ever done before in a like time.

Where practical the winch drum, which has greater overhanging clearance than any other, can pull with drum overhanging derrick floor, anchored to side sill, and have greater line clearance in derrick than with standard bull wheels.

Self-energized double brakes on cast steel drums furnish a large margin of safety attractive to producers. The accessibility of the tractor for adjustment and repairs, the sturdiness of the winch to the *nth* degree, the "Caterpillar" traction to insure mobility regardless of soil conditions, the heat treated carbonized and nickel steel parts on both winch and tractor insure the user against delays, expensive repairs and loss of production.

Manufactured in five sizes:

For the shallowest well—a Model Ten.
For the deepest well, even though it may be 10,000 feet—the Model Sixty.

Sold through our own representatives in Texas, Oklahoma and Kansas

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THE ALLSTEEL PRODUCTS MFG. COMPANY

231 WEST ENGLISH ST. *(See us at Tulsa Exposition)* WICHITA, KANSAS

WRIGHT *forged steel* STUFFING BOX . . .

CASING HEAD *with* SPLIT CASING RING

(Figure 1)

PATENTED
Patent Number 1,708,645

1. Body.
2. Combination split casing ring and follower.
3. Slips.

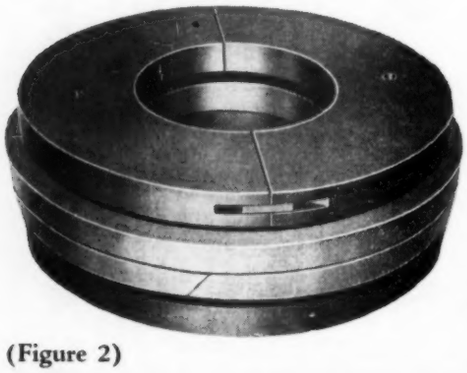
The WRIGHT HEAD *is* RIGHT

It is designed to withstand extremely high gas pressure and to support the casing in the deepest known wells today (May, 1929). The bowl is forged and turned from solid steel billet and may be built to fit any size of casing and with any desired outlet.

The combination split (2 piece) casing ring top and gland is made of very heavy steel castings, dove-tailed and bolted together similar to our regular split casing ring. This member supports the inner string of casing by means of 4 forged steel slips or wedges, and the bottom of it is machined to form a gland which rests on the steel and lead packing in the bowl.

Figure 2 shows the arrangement of the lead and steel split packing rings, i.e., a split steel ring on the bottom then two split lead rings with joints overlapped, then a split steel ring on top. These split steel rings are provided with V shaped bosses to insure expansion of lead rings against the inner string of casing and the sides of the bowl.

The bowl and gland of this stuffing box, is so designed that either rubber or hydraulic packing may be used instead of lead as a packing element.



(Figure 2)

Our patented slotted link feature, used in all O.I.W. split stuffing box casing head rings, which prevents one half of ring fouling on other half, is shown in Figure 3.

(Figure 3)

OKLAHOMA IRON

...FORGED STEEL LOUISIANA

PATTERN STUFFING BOX CASING HEADS

5-3/16"x3" size

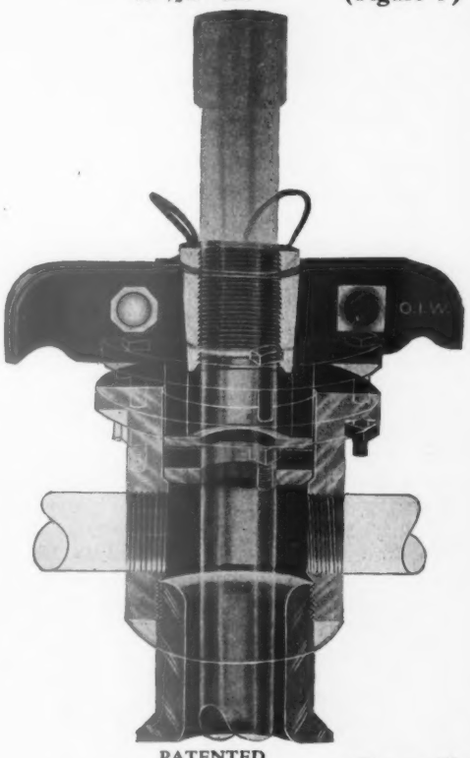
(Figure 4)

These heads are regularly furnished in any size or combination of sizes with either two or four outlets. They are forged from the billet and machined accurately to size and are designed to withstand 2000 pound working pressure. The body in each particular size is sufficiently strong to support our patented split tubing ring or split casing ring and slips which takes the place of the regular split gland, as shown in Figure 7.

15"½x9" size (Figure 5)

(Figure 6)

Patented SLOTTED LINK FEATURE in RING and DOWELED SPLIT GLAND prevents overlapping of ring under packing and facilitates assembling gland under heavy gas flow.



PATENTED
Patent Number 1,708,645 (Figure 7)

WORKS, Tulsa, Okla.

Gas Waste in California Forms Standard Oil Bulletin

AT the end of August the new California law which prohibits an unreasonable waste of natural gas comes into full effect. Full success in the enforcement of this measure is of the greatest consequence to the people of California and to those interested in the California oil industry, in all of its phases, including stockholders of oil companies,. Its importance can hardly be overstated.

To the people of California the enormous waste of gas is the permanent loss of a natural heritage of great value, of inestimable worth in some possible day of the future when California's oil and gas supply approaches exhaustion. To those particularly interested in the oil industry a continuation of the present condition spells advancement toward demoralization and chaos.

The facts are simple. The discovery of new oil fields, highly prolific in both crude oil and natural gas, and their unrestrained development, has brought about a condition of great overproduction of both oil and gas. During June, when 4,345,497 more barrels of crude oil and 19,256,500,000 cubic feet of natural gas were produced than could be used, the oil was sent to costly storage; the gas blew off into the air, gone from human use forever. The accumulation of surplus stocks in storage of petroleum reached a record figure — 165,270,000 barrels, a gain of 5,475,590 barrels for the month.

In the subterranean deposits in which petrolem and natural gas are found sometimes gas alone is encountered, but more often in California the two are in liquid combination in the same reservoir. As a well pierces the reservoirs the oil and gas rise under pressure. At the well-mouth the oil and gas separate. The oil is sent to tank-farms. Much of the gas is used in the field for fuel, sent to market or, in some cases, put back into the ground. But there remain still enormous quantities for which there is no market nor use. This is the gas which is blown to the air. The cost of storing gas aboveground is prohibitive. Older oil-fields from which oil and gas have been removed, leaving voids, affords the only effective storage for gas, and quantities have been disposed of in this manner. This gas also serves the useful purpose of repressuring old fields.

The interest of the public is clear. California's natural gas deposits constitute a great natural resource. Natural gas is a valuable fuel, and its wastage in huge quantities is economically criminal. Southern California has long had the benefit of natural gas for industrial and domestic use. Its availability is one of the important factors in the rapid development of that region. Recent discoveries of gas in the San Joaquin Valley will give central California and the great San Francisco Bay area a supply of this fuel. While there is much more gas available at the moment than California can use, there is no certainty as to how long the supply will last. Therefore, gas now blowing off should be kept in the ground. In a sense, gas is like water. Running to the sea, water is lost; impounded, it is made to serve a useful purpose. · So also with natural gas.

The development of natural gas fields and establishment of a reserve is wise. The demand for natural gas fluctuates violently. The market consumes far more gas in the winter than in the summer—one authority states that at times there is as much as a five to one variation between the average summer day and a winter day of peak demand. Hence, there should always be available sufficient gas to meet the maximum public requirements.

Gas has another value than its use as fuel. It performs vital services in moving oil toward a well and lifting it to the surface. In times of shortage of crude oil its utilization for these purposes might be warranted, even if it were necessary to let it go into the air.

The detailed figures for the month of June indicate the magnitude of the waste of natural gas. Every day during that month 641,883,000 cubic feet of natural gas from California oil fields

Prayer Supersedes Wiggle Stick In Well Location

This is a very unusual story. In fact it is the first of this type ever printed by THE OIL WEEKLY. *The facts in the case are vouched for by our representative so it is presented for whatever interest it may have.*

THIS little story perhaps more rightfully belongs in a religious publication than in one devoted to the oil industry, but as it after all is a story of a gas well's successful completion in a new horizon, it perhaps belongs here.

This is the tale of a gas well whose entire operation from its inception to its present stage that of a 26-million foot gasser, was the result of Divine guidance.

Last January a group of Shreveport people, including a number of ministers, decided to drill a test for gas in the Panola County (Bethany) field of East Texas.

After the company was organized as the Calatex Oil & Gas Company, with preachers making up the majority of the stockholders, a prayer was said in which Providence was asked where the test should be located. In answer to this prayer, location was made and the hole spudded.

Matters went along smoothly until the company ran out of money. More prayer was restored to and more stock was sold among devout ministers and laymen and the work was resumed.

Then M. H. Smith, president of the company and the drilling contractor, fell ill. He was a victim of paralysis. None other in the company was qualified to give the expert advice needed.

Fasting and prayer for his recovery were used, and that afternoon when one of the clergymen who was a prime mover in the company went to visit the stricken man the latter was able to move one foot. His recovery followed and he was able to give the needed information for continuing operations

But like Job pursued by Satan, the test well faced more difficulties. Just after casing was set for a test, the well blew out around the casing and hurled mud high in the air and appeared doomed to get from under control.

The preacher - stockholders again went down on their knees and in what experience field men said was little short of a miracle the well was saved.

Once when the well was shut down for funds and the minister-stockholders had prayed for aid, two laymen from California happened along and invested $17,000 in the project, enabling it to be completed.

Furthermore, officials of the company say that the offset locations to the well will be made after prayer.

The drilling crew, according to one of the ministers interested in the well, entered into the spirit of the project and evidenced their faith in the prayers of the stockholders by working for half salary and half stock. Incidentally they have gotten two to one for their stock.

The gasser drilled under direct Divine guidance is the Calatex Oil & Gas Company's W. C. Agurs 4 in the J. Womack headright survey of Panola County. It was completed at total depth of 2990 feet, nearly 200 feet below the deepest horizon producing in that area.

M. H. (Mike) Smith is president of the company and F. J. Katz, treasurer of the Louisiana Baptist convention, is secretary-treasurer. Approximately 15 ministers own stock.

XUM

HOW CAN YOU TELL DEPENDABLE PIPE?

PRODUCTS
Tubing
Casing
Line, and Rotary
Drill Pipe

You cannot judge pipe by looking at it. All steel pipe looks about the same. And you cannot afford to inspect and analyze every piece of pipe you buy or install.

But you can make sure that it's Republic Steel Pipe. Then you have the assurance of strength, uniformity and durability. Then you know that every length has been made to conform to rigid specifications . . . has passed severe tests and inspections before it is ever placed on the market. Then you can not only expect, but you can be certain of satisfactory pipe service.

The name Republic on steel pipe is a positive answer to the question of dependability . . . insurance of quality piping in your oil or gas lines.

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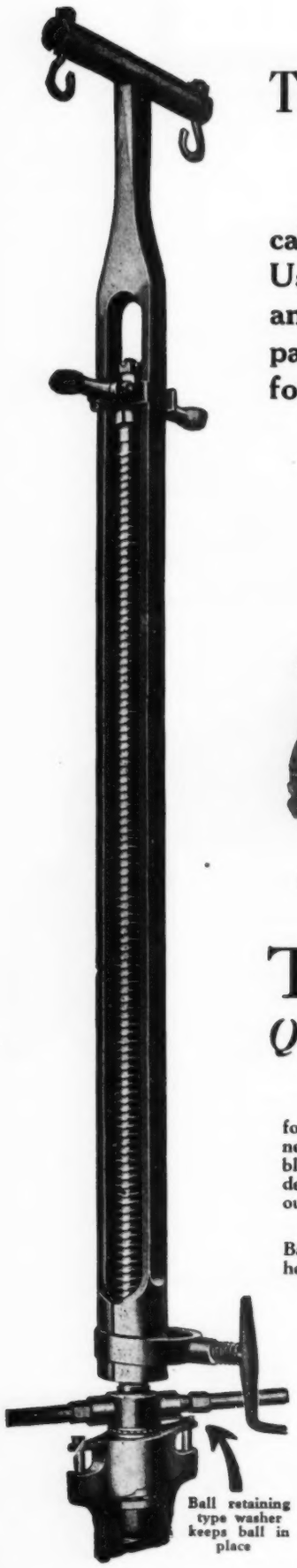
BURNS—*A Name That Has Always Stood for Highest Quality*



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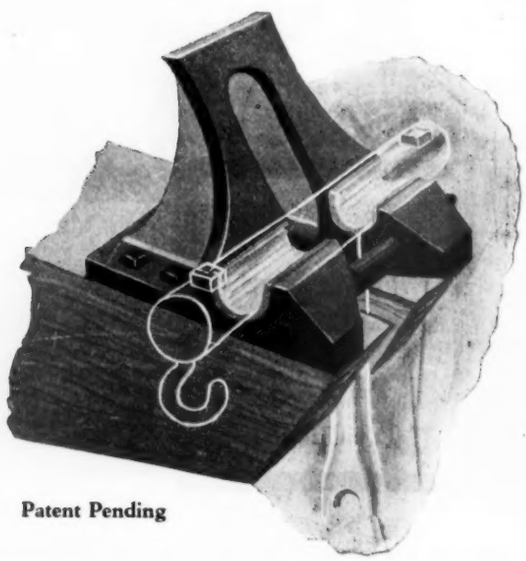
Tubular Temper Screw

THE standard in cable tool drilling in every field. Used on the world's deepest wells and by the world's largest companies, in every land where oil is found.



Patent Pending

This same BURNS

Quality is in this new product

THE BURNS BEAM BEARING

for Temper Screws, saves the beam and makes unnecessary the practice of *half-soling*, or nailing a block of hardwood to the beam head. A *Safety first* device as it is impossible for Temper Screw to jump out.

No working parts, nothing to get out of order. Babbitt bearings prevent wear on the temper screw head. For sale by your Supply Store, write for prices.

BURNS
Tool Company
OKMULGEE - OKLAHOMA

blew off into the air. This is equivalent to the heat, or energy, value of 121,100 barrels of fuel oil, or 34,600 tons of coal per day. For the whole month of June the loss of gas amounted to 19,256,500,000 cubic feet, equal to 3,633,300 barrels of fuel oil, or 1,038,000 tons of coal. Inasmuch as there is no market for this gas, it is difficult to set down its worth in money; but applying a price of seven cents per thousand cubic feet, for which great quantities of natural gas are sold in the field, a figure of $1,347,955 for the month is reached.

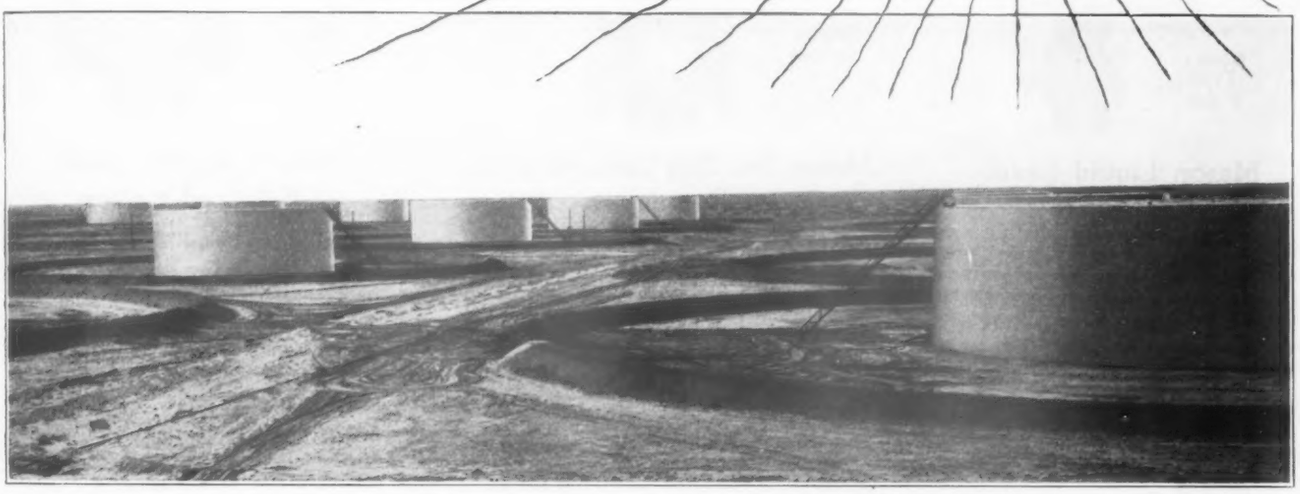
From every point of view the conservation of natural gas and the elimination of waste are essential. There is an excess of gas now only because the oil industry is producing too much crude oil. If the gas is shut in the overproduction of crude will be curtailed, bringing supply and demand more nearly into balance. Slower and more orderly development, enabling the gas to perform its most valuable functions of driving oil to the well and lifting it to the surface, will result in a greater ultimate recovery of oil. More orderly development will prevent periods of great overproduction, and eliminate the great expense of storing surplus petroleum. All this will work for a more prosperous industry. It will prolong California's supply of both oil and gas, and defer a possible day of importation of petroleum by California.

For some years the oil industry has discussed "conservation" and the control of the production of crude oil. Many plans have been made; some of them have been tried. Nothing however, quite so comprehensive as the new California law prohibiting the unreasonable waste of gas has been attempted. It deserves a thorough trial and the co-operation and support of the entire oil industry.

Midland, Texas.—Another West Texas crude tank farm of the Magnolia Petroleum Company has been visited by lightning, resulting in the loss of one 80,000-barrel steel tank filled with Church & Fields crude. The tank farm employes directed 38 balls from a three-inch cannon into the sides of the tank to prevent boiling over, and were successful in their efforts. The tank was located near Crane station of the Magnolia Pipe Line Company, and became ignited by lightning at 1:20 p. m., August 13, with a total loss resulting. On four separate occasions lightning has struck Magnolia Petroleum Company's Midland tank farm for a total loss of ten 80's, nearly all being filled with crude. On this same tank farm static or sulphur accumulation started a fire that exacted a toll of one tank filled with oil.

Lundy Woods, formerly purchasing agent for the Oklahoma Natural Gas Corporation, Tulsa, has taken a position with the Donner Engineering Company, Tulsa, manufacturers of gas burners.

You can DEFY the Sun with WIGGINS BREATHER ROOFS



BY equipping your standing storage tanks with Wiggins Breather Roofs you can defy the power of the sun to rob you of your oil.

For example, a 55,000-barrel tank equipped with the best gas-tight roof storing average Mid-Continent crude will lose over 500 barrels a year. In addition, the evaporation may place the entire tank of oil in a lower price grade through lowering of the gravity, since the lightest and most valuable fractions of the oil escape. Wiggins Breather Roofs prevent most of this loss by permitting the tank breath, without forcing air-laden vapor out through the vents. Fire danger is also minimized.

Wiggins Floating Roofs are similarly effective on working tanks. You can investigate both without obligating yourself. Ask our nearest office for information and references to users.

STOP EVAPORATION LOSSES

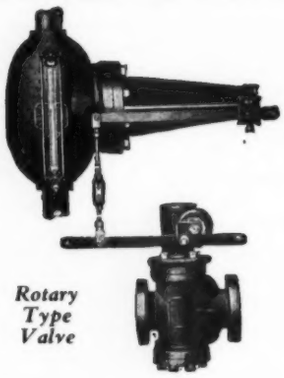
CHICAGO BRIDGE & IRON WORKS

Dallas	3338 Magnolia Bldg.	Detroit	1515 Lafayette Bldg.
Chicago	2142 Old Colony Bldg.	Philadelphia	1613 Jefferson Bldg.
New York	3144 Hudson Terminal	San Francisco	1050 Rialto Bldg.
Cleveland	2241 Union Trust Bldg.	Havana, Cuba	Apartado 2507

with WIGGINS BREATHER ROOFS

OW 8-30 Gray

Three Dependable Aids to Oil Field Efficiency and Economy



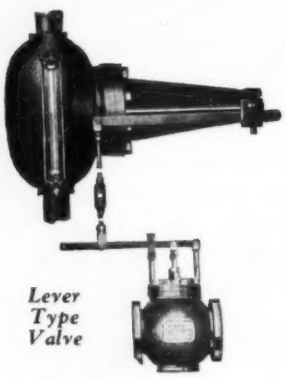
Rotary Type Valve

Mason Liquid Level Controllers

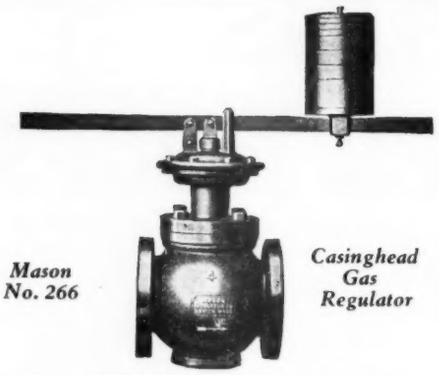
Positively maintain liquids at any predetermined level in stills, receivers, absorber towers, heaters, condensers, closed tanks, etc.

For gasoline, oil, water, and other fluids.

Simple, dependable, and sturdily built.



Lever Type Valve



Mason No. 266

Casinghead Gas Regulator

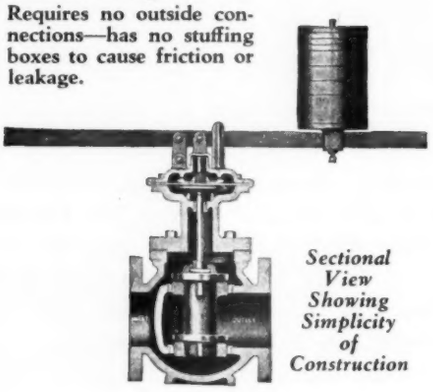
Mason No. 266 Casinghead Gas Regulators

Maintains constant back pressure or vacuum on wet gas line at well.

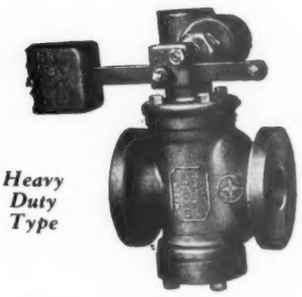
Holds any given vacuum or back pressure on casing-head, permitting excess to pass into gathering lines.

Simple in construction, compact in design, and very accurate in regulation.

Requires no outside connections—has no stuffing boxes to cause friction or leakage.



Sectional View Showing Simplicity of Construction



Heavy Duty Type

Mason Rotary Shaft Balanced Valves

Designed for hard service where a special construction is needed to insure satisfaction. Rotary valve stem eliminates wear on packing, minimizes friction, and promotes accuracy. No exposed working parts to corrode or gather dirt.

Standard Type

Write for Special Oil Field Bulletin.

Mason Regulator Co.,

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The Regulator Folks

Mason Regulators

Backed by the Experience of Almost Half a Century of Study of Pressure Problems.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn Oil Co., Bingham 190, tr 85	12	....
Bingham 196, tr 84	2	....
Bingham 570, tr 5	5	....
Bingham 439, tr 122	2	....
Bingham 390, tr 11	4	....
Bingham 420, tr 3	3	....
Bingham 450, tr B-1	2	....
Bingham 452, tr 2	2	....
Bingham 395, tr 14	7	....
Bingham 576, tr 20	4	....
Bingham-Satterfield 156	2	....
Bingham-Satterfield 158	2	....
Riddle Estate 16	4	....
Riddle Estate 17	2	....
Riddle Estate 18	2	....
Taylor 38	2	....
Taylor 39	2	....
Hazlewood Oil Co., Lot 27, tr 148	2	....
Lot 23, tr 160	2	....
Lot 23, tr 161	2	....
Lot 23, tr 156	2	....
Allegany, A-020, A-016, A-028	Pres	....
Lot 23, tr 0170, 020	Pres.	....
Simpson & Co., Bingham 386, tr 75, 76, 81	Pres.	....
Bingham 386, tr 77	2	....
Bingham 386, tr 79	2	....
G. A. Simpson, Simpson 18, 19120, 21	Pres.	....
Simpson 22	5	....
H. E. Camp Estate, Bingham 3	5	....
Bingham 4	5	....
Bingham 5	5	....
Associated Producers Co., Bingham 212, tr 17	5	....
Bingham 212, tr 18	7	....
Bingham 214, tr 24	8	....
Bingham 580, tr 11	3	....
Bingham 582, tr 4	10	....
Dunlavy Bros. & Curtis, Dunlavy 6	18	....
N. V. V. Franchot, Rounds 14	15	....
Rounds 15	20	....
Dallas Oil Co., Ekas 18	5	....
T. H. Kirvin, Jr., Kapp 16	4	....
Phoenix Oil Co., Kennedy-Clark 20	15	....
McKean Trust Co., Griffin & Co. 40	10	....
T. H. Kennedy, Kennedy 17	8	....
Healey Pet. Co., Healey 17	7	....
V. G. Smith, Smith 4	8	....
Smith 5	6	....
Forest Pet. Co., Forest (13 wells) 2 bbls each	26	....
(22 wells)	Pres.	....
BUTLER COUNTY—		
M. B. Finnessy, Marshall 17	7	....
Gregory & Crawford, Anderson 21	4	....
Webber & Shaffner, Vogel 1	4	....
L. D. Campbell & Co., Hutchinson 9	4	....
McCamey & Co., Helfrick 1	*	....
Harbison & Co., Harbison 1	*	....
Wagner, Burke & Co., Burke 1	*	....
CENTER-MIDDLE FIELD—		
Reig & Hickey, Henry 16	3	....
Blanchard & Co., Lot 164, tr 12	2	....
CLARION COUNTY—		
Ed. Breame & Co., Braden 1	3	....
Alum Rock Gas Co., Hess 14	4	....
F. C. Deemer, Meherton & Co. 12	2	....
Clinger, Kopp & Co., Berlin-Exley 3	2	....
Fryburg Motor Co., Stitzinger 1	¶1	....
Ditz & Co., Ditz Heirs 1	¶1	....
Ditz Heirs 2	¶1	....
VENANGO COUNTY—		
M. H. Snyder & Son, Fry Bros. 10	7	....
J. E. Keverline, Schwab 9	3	....
Schwab 10	2	....
George & Root Faggan, Clark 30	17	....
S. Y. Ramage, Stiles 89	2	....
Stiles 90	2	....
Midland Oil Co., Pierson 4	2	....
C. L. Irwin, McKee 6	2	....
Morck Oil Co., Morck 1	¶1	....
Harrison, Baird & Co., Sankey 2	*	....
L. M. Graham & Co., Waid 28	3	....

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This week	Completions Last week	Producers This week	Producers Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	6	9	3	8	1	1	2	..	80	438
California	27	17	26	17	..	..	1	..	51,548	30,750
Illinois	11	9	11	9	..	..	..	..	614	314
Indiana	4	5	2	2	1	2	1	1	88	60
Kansas	15	16	7	6	1	..	7	10	1,415	880
Kentucky	20	43	17	27	..	2	3	14	1,243	1,049
Louisiana	30	21	11	6	6	8	13	7	2,515	4,475
Michigan	11	8	7	6	..	..	4	2	1,155	3,135
Mississippi	1	..	..	..	1	..	..	..	...	...
New York	15	..	15	..	..	..	..	..	66	...
Ohio	44	52	16	20	20	22	8	10	398	302
Oklahoma	57	73	30	37	7	8	20	28	15,196	16,790
Pennsylvania	84	1	78	..	5	1	1	..	353	...
Texas	181	192	99	113	18	9	64	70	33,684	60,077
West Virginia	36	8	12	2	21	4	3	2	123	20
Total	542	454	334	253	81	57	127	144	108,474	118,295
Increase this year	88	..	81	..	24	..	..	..	...	...
Decrease this year	..	..	..	..	..	..	17	..	9,821	...

Company, Well and Loctaion	Initial Production Bbls.	Depth
A. W. Hughes, Hughes 22	3	....
W. C. Weaver, Weaver 1	2	....
Weaver 2	2	....
GREENE COUNTY—		
Wasmuth & Callahan, Iams 2	¶1¼	....

NEW YORK

ALLEGANY COUNTY—		
Messer Oil Corp., Coast & Co. 23	7	....
N. V. V. Franchot, Franchot 26	18	....
Franchot 27	2	....
M. J. Crowley & Co., Coast & Co. 14	7	....
Coast & Co. 15	7	....
F. L. Putnam, Birtcell 3	3	....
Birtcell 4	5	....
Forest Oil Corp., Forest (10 wells)	Pres.	....
Carl-Weller Oil Corp., Karl 9	2	....
Karl 10	2	....
Richmond Oil Co. & Ryder, Ryder 14	2	....
Ryder 15	2	....
Ryder 16	2	....
Ryder 17	2	....
Raymond & Dusenbury, Wheaton 5	2	....
O. W. Perry & Co., Perry 1	3	....

WEST VIRGINIA

ROANE COUNTY—		
Morford O. & G. Co., Pursley 1	*	....
Virginian Gasoline & Oil Co., Tallman 3	2	....
South Penn Oil Co., Stockley 96	20	....
Stockley 98	10	....
United Fuel Gas Co., Westfall 1	¶1¼	....
Ohio Valley Gas Co., Morris 1	4	....
Grow & Decker, Kendal 1	2	....
CALHOUN COUNTY—		
W. H. Bickel, Harris 1	¶1¼	....
M. F. Crowley, Betts 2	10	....
Snodgrass Bros., Buck 1	¶1¼	....
F. F. McIntosh, Stump 1	¶1½	....
Hope Nat. Gas Co., Hardman 7296	10	....
Oscar Garrison, Stevens 1	*	....
BOONE COUNTY—		
Owens Bottle & Machine Co., Peytonia Land Co. 18	¶1¼	....
Bedford 16	¶¼	....
Hope Nat. Gas Co., Allen 7543	¶1½	....
Chambers 7241	2	....
United Fuel Gas Co., Chew 1879	¶1½	....
Mountain State Fuel Co., Prince 1	¶1	....
LINCOLN COUNTY—		
United Fuel Gas Co., Horse Creek Land 2911	¶¼	....
Mullens 3907	¶¼	....
Earl Cameron, Stone 5	¶¼	....
Stone 4	¶¼	....
MARSHALL COUNTY—		
Annex O. & G. Co., Spragg 1	50	....
F. J. Watson, Lougenslager 1	¶1	....
Manufacturers Light & Heat Co., Winters 12	¶1	....
WOOD COUNTY—		
O. E. Grow, McAtee 17	5	....
Charles & Co., McAtee 6	3	....
RITCHIE COUNTY—		
Pittsburg & W. Va. Gas Co., Cox 4977	¶½	....
South Penn Oil Co., Bickerstaff 7	5	....

Company, Well and Loctaion	Initial Production Bbls.	Depth
PUTNAM COUNTY—		
Penn Nat. Gas Co., Chaney 1	¶1¼	....
TYLER COUNTY—		
J. H. Pentz, Smith 2	¶½	....
LEWIS COUNTY—		
Pittsburg & W. Va. Gas Co., Bennett 7545	¶1¼	....
CABELL COUNTY—		
West Virginia Gas Corp., Ross 1	¶1	....
GILMER COUNTY—		
Pittsburg & W. Va. Gas Co., Wolf 7552	*	....
KANAWHA COUNTY—		
Virginian Gasoline & Oil Co., Davis 4	2	....

KENTUCKY

MUHLENBURG COUNTY—		
J. C. Ellis & Young, Bradshere 1	400	1790
Wood Oil Co., Schaeffer 1	*	....
HENDERSON COUNTY—		
Niagara O. & G. Co., Dunn 1	75	....
DAVIESS COUNTY—		
Huff & Calderwood, Salmon 8	50	....
Jetsan Oil Co., Hinton 8	35	....
Dahlgren, McMahan & Co., Wilson 1	*	1825
Red Bank Oil & Gas Co., St. Joseph Academy 1	*	....
OHIO COUNTY—		
J. C. Ellis & Co., Whitley 1	10	....
Whitley 2	10	....
Greer 4	30	....
Keith 8	30	....
Ohio Oil Co., Kelley 8	48	604
Hupp & Duff, Trodgen 16	200	....
Ogle & Maxey, Royal 8	50	....
Royal 10	150	....
H. L. Ogle & Co., Royal Heirs 1	40	....
Royal Heirs 2	25	....
Chester Oil Co., Medcalf 3	50	688
C. Claypool & Co., Ralph 13	30	475
Cumberland Pet. Co., Wedding 1	10	....

SOUTHEASTERN OHIO

MONROE COUNTY—		
Sylvania Producing Co., Winland 1	40	1625
W. O. Latimer & Co., Stegner 3	3	....
Roy Decker & Co., Joost 5	¶¾	1430
Geo. H. Decker & Co., Decker 2	*	2244
MORGAN COUNTY—		
Ohio Fuel Gas Co., Pierce 2	¶¼	1570
Hopewell F. & G. Co., Coilter 2	¶½	3630
James Bump & Co., Wilson 1	*	311
NOBLE COUNTY—		
J. B. Richardson & Co., Wiper Heirs 1	2	....
Roman Smithberger, Noll 4	¶¼	1309

CENTRAL OHIO

ASHLAND COUNTY—		
Preston Oil Co., Morris 3	*	716
Ohio Fuel Gas Co., Long 1	¶¾	....
Benner 3	¶¼	....
Hess 1	*	....
Gordon 1	¶¼	....
Harry Farmer, Helbert 1	¶¼	715
B. Slagel, Metcalf 3	*	724
Robinson & Co., Easley 1	*	624

(Continued on page 84)

(Continued from page 83)

Company, Well and Loctaion	Initial Production Bbls.	Depth
PERRY COUNTY—		
Hope Construction & Refg. Co., McCune 5	5	....
R. C. Miller & Co., Haskett 1	¶½	3620
Clyde Foraker, Lucas 1	¶¼	1175
A. G. Colgan & Co., Wilson 1	33	3575
Leonard Oil & Gas Co., Burley 2	38	3545
LICKING COUNTY—		
Emerald Pet. Co., Little 4	50	2961
Pure Oil Co., Loughman 4	30	3162
Settles Oil Co., Smith 3	12	598
Sterl Brown, Frost 5	¶½	736
HOCKING COUNTY—		
Preston Oil Co., Sunday Creek Coal 76	¶¾	1045
Sunday Creek Coal 74	¶½	3361
Gordon Oil Co., Anthony 6	80	2928
Kelch Bros., Reynolds 1	¶¼	715
SUMMITT COUNTY—		
Cameron & Co., Traxler 1	¶6	4102
F. A. Brendall & Co., Smith 1	¶5	3928
Goughler 1	*	4219
MUSKINGUM COUNTY—		
Hope Construction & Refg. Co., Helphrey 8	3	3044
GUERNSEY COUNTY—		
Ohio Fuel Gas Co., Cropped 1	25	3378
ATHENS COUNTY—		
Ohio Fuel Gas Co., Anderson 1	¶¼	1424
WAYNE COUNTY—		
Ohio Fuel Gas Co., Fulton 2	¶¼	....
BELMONT COUNTY—		
Lewis & Co., Pakari 2	¶¼	1791
HOLMES COUNTY—		
I. E. O'Hail, Weimer 1	*	....
NORTHWESTERN OHIO		
ALLEN COUNTY—		
Neely & Nolan, Bassett 6	15	1367
C. A. & F. J. Peavey, Hoover 1	20	1369
Alva Spencer & Co., Lucius 4	5	1254
SENECA COUNTY—		
Columbus-Tiffin Oil Co., Jacobs 2	5	1428
Chas. Bell & Co., Ewalt 1	¶¼	1513
SANDUSKY COUNTY—		
Gibsonburg Oil Co., Fought 2	35	1337

INDIANA

PIKE COUNTY—		
Peoples Pet. Co., Hurt 2	13	1291
Chas. C. Taliaferro, Jr., Lew George 3	¶1	1108
VIGO COUNTY—		
Siosi Oil Corp., Thomas-Williams 1	75	2230
GIBSON COUNTY—		
Gem Oil Corp., Ferris 3	3	1246

ILLINOIS

ST. CLAIR COUNTY—		
Ohio Oil Co., Hall-Weihl 2	160	528
Majestic Oil Co., Carr 1	100	545
Keller & Co., Rudolph 1	90	565
Sugar Loaf Oil Co., Breuer 1	80	552
H. & M. Operating Co., Bonhomma 1	75	550
Smallenberger 1	25	558
G. P. Hironimus, Melton 1	30	545
Muckermann & Herseg, Smallenberger 1	25	540
Chas. E. Knox & Co., Smith-Creswell 1	20	549
LAWRENCE COUNTY—		
Big Four O. & G. Co., Seed 14	5	1658
CRAWFORD COUNTY—		
Selby-Cisler Producing Co., Reaville 51	4	972

MICHIGAN

MUSKEGON COUNTY—		
L. R. Henley & Co., Koning 2	250	....
Republic Oil Co., Brand 3	200	....
Swastika O. & G. Co., Berkema 3	¶8-100	....
Continental O. & G. Co., Fee 16	50	....
Walker 1	*	2040
Johnson Oil & Refg. Co., Grotefeld 4	50	2048
M. & I. Oil Co., Durham 2	5	1785
ISABELLA COUNTY—		
Pure Oil Co., Hendershot 1	500	3550
NEWYAGO COUNTY—		
F. Ranke O. & G. Co., Horner 1	*	2950
ALLEGAN COUNTY—		
Kimmell & Schrock, Hamilton 1	*	1800
KENT COUNTY—		
Ohio Producing & Refg. Co., Pennington 1	*	2842

CALIFORNIA

Company, Well and Loctaion	Initial Production Bbls.	Depth
BELRIDGE—		
Ohio Oil Co. 29	25	682
FRUITVALE—		
Western-Gulf Oil Co., KCL 9B	780	3973
KERN FRONT—		
General Pet. Corp., Young 29	250	2019
LONG BEACH—		
Dabney-Johnston 23	1450	7350
13	150	7450
33	700	7465
Pan-Cal Oil Co. 1	2950	7470
Pet. Securities Bixby 1	350	4825
RICHFIELD—		
Superior Oil Co., Guarantee 2	155	4284
ROUND MOUNTAIN—		
Pet. Securities, Coffee 2	*	1693
SANTA FE SPRINGS—		
General Pet. Corp., S. F. 143	5670	6839
S. F. 152F	2950	6920
S. F. 145B	2390	6918
S. F. 232	2115	7945
Getty, Geo. F., 31	1596	7060
Standard Oil Co., S. G. 12	2600	8004
Heplar 7	2100	8052
Superior Oil Co., Wardman 6	4250	6836
The Texas Co., Foix 6	2419	6860
Lamb 2	3945	7990
Weaver 5	2582	6846
Union Oil Co., Bell 46	1650	6850
Farwell 13	1750	6825
Farwell 14	8000	6850
Universal Oil Co., O'Connell 3	2550	7714
O'Connell 4	2050	7813
VENTURA AVENUE—		
M. K. & T. Oil Co., Foster 3	621	6958

OKLAHOMA

CARTER COUNTY—		
Ven Mex, Fason 2, ne se 19-1s-3w	65	3430
Ven Mex, Dixon 1, se nw 30-1s-3w	360	2847
COTTON COUNTY—		
Gilurian et al, Chambers 2, ne se nw nw 2-2s-10w	30	2160
Chambers 9, cnl se nw 2-2s-10w	40	2174
Chambers 7, se nw nw 2-2s-10w	55	2172
Amerada, Delana 1, se nw nw 31-4s-9w	*	3348
CREEK COUNTY—		
Shaffer et al, Lewis 3, ne sw sw, 10-15-8e	¶6½	3165
Texas Pacific Coal and Oil, Beaver 5, nw sw nw 17-16-9e	15	2675
Sinclair, Dacon 8, sw se se 16-17-7e	1	2832
Glenora Ref., Walker 4, ne nw nw 23-17-8e	¶2	2625
H. U. Bartlett, Parks 1, se ne ne nw, 30-18-9e	18	2698
Nowata Oil & Ref., Meyers 1, se nw 11-16-8e	*	3747
Jackson and Wise, Oglesby 1, se ne se, 14-18-8e	*	3407
HUGHES COUNTY—		
Furhman, Buck 2, cwl se sw, 21-9-10e	¶17	2795
Gypsy et al, Long 1a, nw se, 14-8-9e	*	3535
McGee Bros., Smith 1, ne sw 25-8-11e	*	3836
KIOWA COUNTY—		
Russell and Sloan, Funkhouser 1, c nw 23-7-17w	*	2307
LINCOLN COUNTY—		
Magnolia, Sukovaty 8, owdd, nw ne ne 3-14-5e	*	3680
McINTOSH COUNTY—		
Western Natural Gas Co., Wells 1, cnl s½ se nw, 15-11-17e	*	879
MURRAY COUNTY—		
Revels and McGee, Wolf 1, nw 17-1n-2e	*	2510
MUSKOGEE COUNTY—		
H. D. Johnston, Foreman 1, se sw sw 14-13-18e	¶1½	657
OKFUSKEE COUNTY—		
Champlin Ref., Holmes 13, nw ne 22-11-11e	510	3501
C. L. McMahon et al, Sproleder 2, se sw se 29-12-10e	¶27	3139
OKMULGEE COUNTY—		
Sam Broght et al, James 1a, cel sw se, 31-15-12e	*	2787
OSAGE COUNTY—		
W. S. Mitchell 1, ne nw ne, 7-21-9e	*	2390
Indian Territory Illuminating, 413, se ne se, 6-25-11e	¶2	1858
PAWNEE COUNTY—		
McMann et al, Zicklefoose 1, nw ne, 34-20-9e	*	2220
Roy Sears et al, Wiggs 4, csl ne nw, 35-20-9e	300	2044
PAYNE COUNTY—		
Transcontinental, Powers 2, sw nw nw, 10-18-5e	¶5½	2110
PONTOTOC COUNTY—		
Independent, Hampton 1, ne se, 23-4-8e	*	3690
Homaokla Oil, Ritchie 4, nw ne se, 1-4-7e	20	2135
POTTAWATOMIE COUNTY—		
Sinclair and Mid-Continent, Cummings 1, se ne se, 6-7-5e	*	4470
Superior, Songster 1, nw, 8-9-5e	870	4381
Jackson 1, sw, 36-8-4e	130	4230
Sinclair Oil & Gas et al, Kelly "A" 1, ne nw ne, 2-7-4e	1450	4335
Magnolia, Harden 2, nw 12-7-4e	325	3895
Independent and Westland, Rhodd 3, ne nw nw, 16-7-4e	40	4045
Independent, James 1, nw se sw, 17-7-4e	1350	4106
Magnolia, Wilbarn 6, ne sw se, 24-7-4e	125	4380
Sinclair, Neeley 6, ne sw sw, 25-7-4e	365	4210
SEMINOLE COUNTY—		
Carter, Rogers 1, sw se, 2-8-5e	*	4489
Gypsy, Thomas 1, se nw, 9-6-7e	*	4304
Prairie, Billington 11, nw sw nw, 11-8-5e	*	4244
Cosden, Sarber 1, ne sw sw 13-9-5e	70	4191
Amerada, Reed 1, sw nw 12-8-5e	200	4287
Gypsy, Cotcha 12, nw sw 23-7-6e	620	3129
Blackwell, Fleet 2, se sw nw, 13-5-7e	1450	4370
Burke Greis, Lucy 4, ne se ne se, 18-5n-8e	100	2650
Sinclair, Peter 1, se nw nw, 18-5-8e	225	2435
Prairie, Calkins 1, nw sw 18-9-6e	6380	4311
STEPHENS COUNTY—		
Pace et al, McMasters 2, se nw ne, 13-2s-8w	*	1549
Pace et al, Woodward 1, ne se ne ne, 14-2s-8w	*	2255
American Pipe Line, Nigh 8, sw se nw 34-1s-8w	25	1866
Magnolia, Peck 7, ne sw se ne 13-2s-8w	40	1497
WAGONER COUNTY—		
H. H. Taylor and W. C. Hatch, Luckey 2, sw 11-18-15e	*	1293
Barnes and Hanks, Smith 19, sw se nw sw 9-18-15e	12	1326
Ash Brothers, Love 1, se ne sw, 15-18-17e	5	848

KANSAS

BUTLER COUNTY—		
Richmond Drlg., Brissey 3, nw se 8-27-6e	30	2747
Magnolia, Riggs 2, nw sw se 4-28-6e	*	3085
H. B. Garden, Sluss "C" 3, cel nw ne, 6-27-6e	*	2759
COWLEY COUNTY—		
Clerance and Reiter, Claybaugh 1, se nw ne 19-31-5e	¶½	495
ELK COUNTY—		
Denton et al, Elstun 3, se nw nw 15-31-10e	30	2022
GREENWOOD COUNTY—		
Central Pet., Cartwright 7, cwl ne nw 6-24-10e	40	2360
Empire, Edwards "B" 3, sw se se 21-23-11e	465	1956
The Texas Co., Barnard 1, se sw nw 6-23-10e	*	2775
HARVEY COUNTY—		
McPherson Oil & Gas, Stauffer 1, c nw 11-23-2w	*	3075
McPherson Oil & Gas Co., Ruth 1, sw ne nw 14-23-3w	*	3457
SEDGEWICK COUNTY—		
Shell, Borg 1, ne nw ne sw 14-26-2e	*	3220
Bu Vi Bar et al, Carr 8, sw ne se 1-26-1w	430	3382
Shell, Community 3, se nw se sw 15-26-2e	410	2929
WOODSON COUNTY—		
Derby et al, Kenyon 1, ne se nw 29-23-15e	10	1554
RICE COUNTY—		
Prairie, Welch "B" 3, nw ne sw, 35-20-6w	*	3800

XUM

IDEAL
AL-OY STEEL SPROCKET CHAIN

THE NATIONAL SUPPLY COMPANIES

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL—		
Humphreys Corp., Kirby H-1	1475	5051
BLUE RIDGE—		
Navarro Oil Co., Robinson C-1	... 400	4613
FANNETT—		
Gulf, Bordages 7, wo	 200	5955
HULL—		
Republic Prod. Co., Dolbear 114, dd	240	2500
The Texas Co., Hannah Fee 1, dd	100	2980
HUMBLE—		
The Texas Co., Kohler 35, n end field	 200	4339
South Texas Pet. Co., Morris 7	... 600	5250
Morris 9	1000	5028
Harvey S. Smith, Rosenthal 1	2000	4205
MYKAWA—		
Humble, Irvin 2	..... ¶50	4189
ORANGE—		
Brownie Babbett Oil Co., McLean 6	 10	3570
PIERCE JUNCTION—		
Anderson & Plummer, Whitehead 5	200	3540
Moody Corp., Calvert 2	..... *	4960
Navarro-Humble, Doolcy 4	..... *	4909
RACCOON BEND—		
Humble-Valley, Gotoskey 4	 350	3300
SARATOGA—		
Rio Bravo Oil Co., Cotton 79	 10	1100
SOUR LAKE—		
Humble. Bashara 6, dd	 180	1980
SOUTH LIBERTY—		
The Texas Co., Pickett 3	..... *	5170
Jolly O'Brien, Deussen 1	..... *	1740
SPINDLE TOP—		
Sun, McLean 11, wo	 20	5639
Yount-Lee Oil Co., Gladys City 43, wo	..... *	2981
McFaddin 60, wo	 150	2966
McFaddin 69, wo	 850	3284

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BELLE ISLE—		
Freeport Sulphur Co., Belle Isle 1	*	1853
Belle Isle 2	..... *	1315
EAST HACKBERRY—		
Calcasieu Oil Co., Lemke 2	..... *	4003
STARKS DOME—		
Gulf, Industrial Lbr. Co. 13	..... *	7207
THIBODAUX—		
Gulf, Stark 18	..... *	1500
VINTON—		
Vinton Pet. Co., Rescue 13, Ac. No. 9	 400	3150
Salt Dome Oil Co., Shaw 2	 10	2860

TEXAS
NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns, Wilson 20	..... *	1504
King, Collette & White, Wilson 1-E	*	1550
Estacabo Oil Co. et al, Prideaux 6	.. 5	662
Humble O. & R. Co. and Fain McGaha, Logan 4-A	 18	1149
CLAY COUNTY—		
Mid-Continent Holding Corp., Stine et al A-5	 20	1781
Wirt Franklin, Wolf 1	..... *	3135
COOKE COUNTY—		
Danciger O. & R. Co., Huggins 2	.. 310	1174
Huggins 4	 280	1133
Fain McGaha Oil Corp., Huggins 2	100	1163
Huggins 3	 70	1153
Humble O. & R. Co., Poteet 4	 810	1525
Shell Pet. Corp., Field & Bowers 1	.. 148	1197
JACK COUNTY—		
F. H. E. Oil Co., Leffel 4	 145	3082
L. C. Harper, Leffel 3	 350	3115
Leffel 4	 460	3147
Petroleum Prod. Co., Shanfelt 2	 52	3127
Producers O. & G. Co., Bryson 3	... 25	3200
MONTAGUE COUNTY—		
Claud Bell et al, Gaston 1	..... *	2004
Carter Oil Co. and Rycade Oil Corp., Cunningham et al 9	 30	928
Farlyn Oil Co., Cunningham et al 2-A	¶10	1323
The Texas Co., Himton 4	 40	791
WICHITA COUNTY—		
Continental Oil Co., Dodson 1-A	.... *	1484
Coleman & Kappoc, Kemp & Kemp-ner 1	 40	1902
Culberson Co., Waggoner 55	..... *	1969
Waggoner 56	 30	1601
Waggoner 57	..... *	1608
Waggoner 58	..... *	1628
Waggoner 59	 10	1626
Waggoner 60	 20	1390
Waggoner 61	..... *	1624
Cunningham & Pennell, McClure 1	.. 13	505
McClure 2	 3	414
McClure 3	 4	410
McClure 4	 4	408
Duncan & White, Parker 1	..... *	1345
Magnolia Pet. Co., Donehoo 15	..... *	1526
Stump-Melat-Graham, Crudup 2	 73	1820
J. L. Swanner, Parker et al 1	..... *	735
H. H. Temple, Norwood 1	..... *	800
Everts & Jamison, Gibson 1	 75	1929
Humble O. & R. Co. and Hines, Waggoner Bros. 4	 15	1334
King Royalty Co., Boyd 6	....Key Well	

Company, Well and Loctaion	Initial Production Bbls.	Depth
Jno. O'Neill Rio Bravo 29	..... *	1603
Rio Bravo 30	 65	1560
Rio Bravo 31	..... *	700
Rio Bravo 32	..... *	1650
Reno & Goldsmith, Roller 4	 11	1794
The Texas Co., Waggoner 361	..... *	2251
WILBARGER COUNTY—		
P. Brandenberry, Waggoner 2	 42	2435
Empire G. & F. Co., Waggoner 6	.. 138	1851
Waggoner 8	 330	2305
Fain McGaha Oil Corp., Waggoner 17	 250	2311
Golding, Cochran et al, Bateman-Waggoner 1-B	..... *	2455
Lewis Prod. Co., Waggoner 4-B	... 100	2419
Waggoner 5-B	 90	2413
Gray Creek Dev. Co., Boggy Creek-Waggoner 1	..... *	1862
Melat Oil Co., Waggoner 9	 105	1998
Staley Wynne & Co., Waggoner 1-E	155	1866
Waggoner 3-E	 210	1880
Waggoner 11-G	 136	2299
The Texas Co., Waggoner 19-E	... 130	1874
Waggoner Refining Co., Waggoner 1-M	 72	2396
Waggoner 2-M	 120	2330
YOUNG COUNTY—		
Camp O. & G. Co., Campbell 1-A	... *	917
Carpanter, Barrett 7	 8	618
Panhandle Ref. Co., Pittman 3-A	.. *	802
Stephens Roach Co. 1	..... *	800
Richardson & Dresser, Deane 2	.... *	688
Stafford, Brown 2	..... *	584
United Royalty et al, Carpanter 4	... *	660
A. H. Park et al, O. R. Carpanter 5	44	629

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
HUTCHINSON COUNTY—		
Phillips Pet. Co., J. M. Sanford 4	.. 207	2970
HARTLEY COUNTY—		
Canadian Gas Co., Lee Bivins 9	..... ¶10	4145
CARSON COUNTY—		
Timmis Fogarty Oil Co., C. R. Gerner 2	 50	3132
GRAY COUNTY—		
Skelly Oil Co., W. Jackson (east) 1	615	3129
W. Jackson (east) 2	 240	3060
W. Jackson (north) 2	 600	3060
W. Jackson (north) 3	4500	3060
W. Jackson (north) 4	1440	3095
	¶12	3055
Texas Corp., McLarty-Lester 2-B	... 234	2770
G. H. Saunders 11	 375	2780
J. B. Bowers 8	3200	3080

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Bowers and Vacuum Oil Co., Leatherwood 6	..... *	2082
Estacado Oil Co., Bull 2	..... *	1147
Green Prod. Co., Davis 4	 150	1317
Humble O. & R. Co., Hickman 2 "B"	350	1294
G. P. Mitcham, Suttles 1	..... ¶4	1620
Owens et al, Cannon 3	 8	1157
CALLAHAN COUNTY—		
Drew Beams, Jackson 5-B	..... *	1036
COLEMAN COUNTY—		
Broderick & Calvert, Weaver 2	.... *	1862
Eastland Oil Co., Morris 8-A	 31	2015
Morris 11-A	 750	2019
Brooks & Humphrey, McAdams 1	.. *	1018
Sears 1	..... *	1025
Sears 2	..... *	973
Humphrey Bros., Oliver 1	..... *	1941
S. B. Owens et al, Breneke 1	..... *	850
Van Bibber et al, Pierce 1	..... *	630
White Eagle O. & R. Co., Morris 5	.. 615	2037
EASTLAND COUNTY—		
Arkansas Fuel Oil Co., Lyerla 8	... ¶1	1442
J. L. Arnold, MacMullin 1	..... *	3628
Garrett & Moore et al, Casey 1	.... ¶½	3614
Mook-Texas Oil Co., Sibley 10	....¶1½	3230
Whiteside Bros., Murrell et al 1	.....¶1½	1330
ERATH COUNTY—		
Cranfill & Reynolds and Amerada, Gibson 1	.....¶2½	3400
PALO PINTO COUNTY—		
Panhandle Refining Co., Costello 1	.. ¶4	1362
T-P Coal & Oil Co., Stuart et al 159	150	1631
SHACKELFORD COUNTY—		
Roeser-Pendleton and Continental, Cook 10-A-88	 60	1398
Cook 11-A-88	 100	1424
Cook 13-A-88	 150	1418
STEPHENS COUNTY—		
Prairie O. & G. Co., Rogers 2	..... *	4040

(Continued on page 106)

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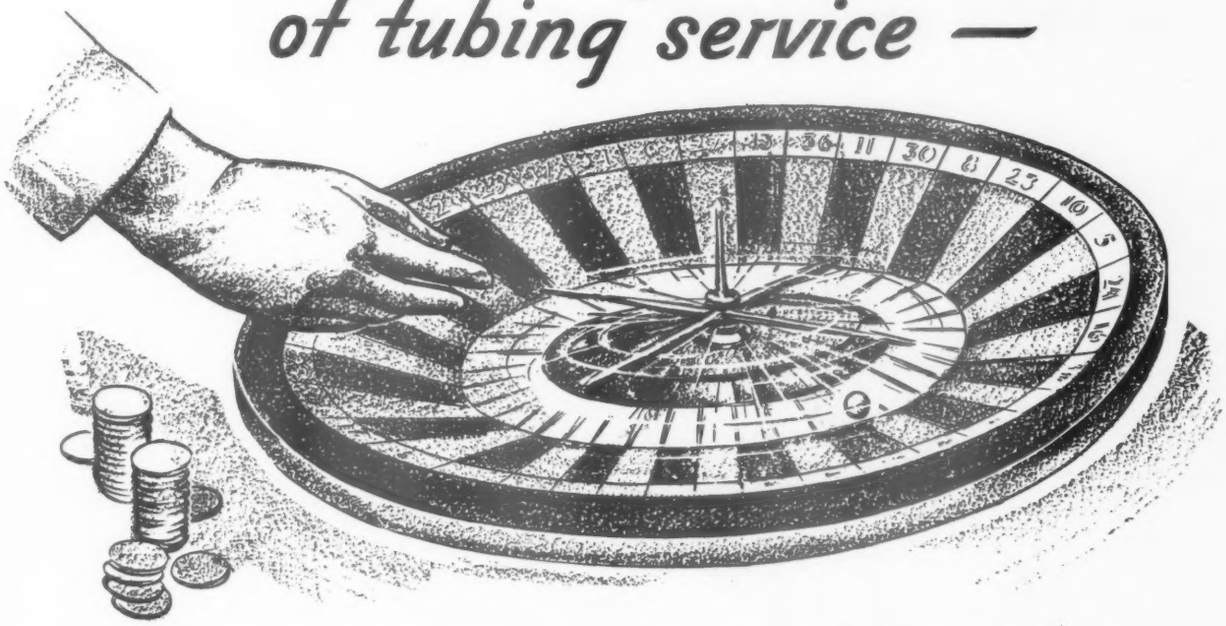

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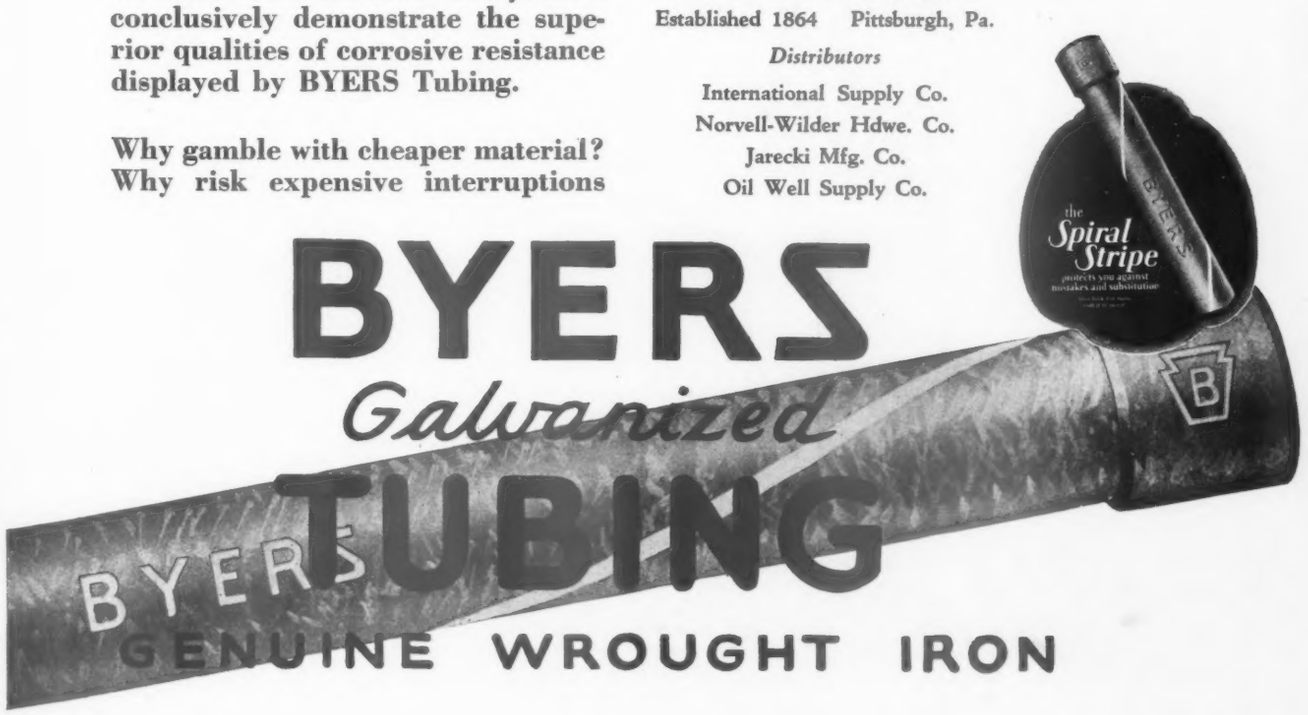

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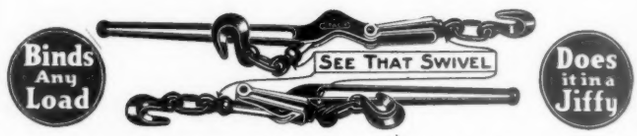

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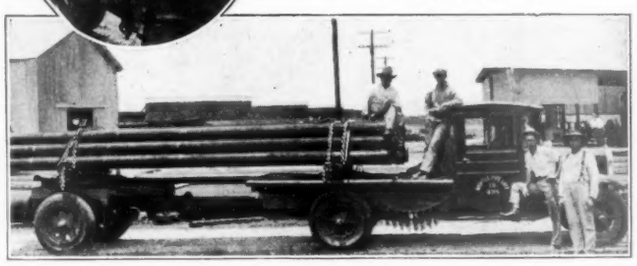

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PERMITS GRANTED FOR NEW WELLS

TEXAS

ARCHER COUNTY—Kemrow Co., Electra, J. W. Campbell, 65, 8, B1, DCSL sur, 175 ft from s and w lines. Underwood Drilling Co., Wichita Falls, M. P. Andrews, 20, 1, 1805, TE&L sur, 50 ft from n and w lines.

AUSTIN COUNTY—Humble, Houston, J. C. Walton, 45, 5, W. C. White sur, 150 ft se of center of nw line; R. B. Woodley, 3, Wm. Harvey sur, 525 ft sw of center of ne line; A. Mueller, 3, W. C. White sur, 569 ft from nw and 150 ft from sw line; A. A. Sanders, 4, W. C. White sur, 570 ft from nw and 200 ft from sw line; A. Grawunder, C 2, W. C. White sur, 150 ft from ne and se lines; R. R. Urban, 50, 4, W. C. White sur, 625 ft sw of center of ne line; R. Deutrich, 50, 5, W. C. White sur, 650 ft sw of No. 3; R. R. Jackson, 2, W. C. White sur, 150 ft from ne and nw lines; H. Grawunder, B 3, W. C. White sur, se corner.

BROWN COUNTY—Harry Warren, Fort Worth, Duff, 25, 2, No. 623, R. Honeycutt sur, 300 ft e of No. 1; 3, 300 ft e of No. 2. Prairie O. & G. Co., Ranger, T. J. Clark, 3, S 158, E. T. Ry. sur, 450 ft from n and 130 ft from e line. Greene Prod. Co., Inc., Fort Worth, M. A. Davis, 40, 6, S 4, SA&MG sur, 300 ft w of No. 5. Lloyd Oil Corp., Fort Worth, J. R. Collier, 190, 23, S 139, W. A. Smith sur, 300 ft e of No. 2. Crosscut Corp., Fort Worth, J. H. Kellar, 95, 12, No. 141, R. Mitchell sur, 150 ft from n and w lines. Texas Co., Wichita Falls, S. C. Kesler, 80, 2, S 42, HT&B sur, 300 ft w of No. 1. S. C. Herring, Brownwood, S. C. Kesler, 20, 1, S 42, H&TB sur, 150 ft from s and e lines of se¼. E. L. Smith Oil Co., Inc., Mexia, L. A. Garza, 100, 3, S 42, HT&B sur, 300 ft n of No. 1. Texas Co., Wichita Falls, S. C. Kesler, 60, 3, S 42, HT&B sur, 300 ft nw of No. 1. L. C. Geisendorf, Brownwood, R. L. Wise, 210, 1, O. Montez sur, west central part of lease. Lloyd Oil Corp., Fort Worth, C. W. Duff, 64, 5, No. 623, R. Honeycutt sur.

BASTROP COUNTY—Humble, Houston, S. Wolfenbarger, 133, 1A, S. Wolfenbarger sur, 150 ft from se and sw lines.

BEXAR COUNTY—Leon Creek Oil Co., San Antonio, A. Reininger, 135, 1, 300 ft from e and 218 ft from s line.

BRAZORIA COUNTY—Steele & Strickland, Minden, La., B. Lockridge, 530, 1, A. Robinson sur, ne corner. Thos. Faust et al, Houston, Fee, 640, 6, S 3, HT&B sur, 600 ft from n and 580 ft from e line.

CALLAHAN COUNTY—Woodley Pet. Co., Shreveport, La., Finley 737 2D, S 73, Bayland Asy. sur, 190 ft from w and 95 ft from n li ne¼ se¼. Moutray Oil Co., Abilene, L. Brown, 22, 1, S 47, D&D Asy. sur, 967 ft from n and 150 ft from e line of sw ¼. Putnam Oil Co., Cisco, B. F. Rutherford, 85, 31, S 8, Bayland Asy. sur, 300 ft w of No. 4; 32, 300 ft w of No. 31; 33, 300 ft e of No. 29; 34, 300 ft w of No. 30; 35, 450 ft from n and w lines; 36, 450 ft from w and 150 ft from n line; 37, 150 ft from n and w lines; 38, 150 ft from n and 150 ft from w line; 39, 450 ft from s and w lines. Amerada, Fort Worth, O. E. Bradford, 240, 1, S 20, D&D Asy. sur, 150 ft from w and 750 ft from s line nw¼. R. O. & B. H. Eubank, Cross Plains, Fee, 160, 6, B 48, C.C.S.L. sur, 300 ft from w and 409 ft from s line. Cranfill & Reynolds, Cisco, T. Windham, 1, S 162, B 3, GH&H sur, 150 ft from s and e lines of nw¼. Moutray Oil Co., Abilene, A. Hickman, 47, S 149, BBB&C sur, 150 ft from n and e lines of sw¼ ne¼. Falls, E. L. Finley, 40, 2, S 75, Bayland Asy. sur, 150 ft fro mn and e lines of sw¼ ne¼. Warren-Hayes Oil Corp., Cisco, A. L. Biggerstaff, 40, 1, S 310, E. T. Ry. sur, 150 ft from s and w lines of se¼ nw¼. L. A. Warren et al, Cisco, A. L. Biggerstaff, 40, 1, S 310, E. T. Ry. sur, 150 ft from s and w lines of nw¼ sw¼.

COLEMAN COUNTY—E. T. Green, Brownwood, J. T. Johnson, 60, 1, S 219, E. T. Ry. sur, 150 ft from e and 660 ft from s line. Continental Oil Co. & Atlantic, Wichita Falls, M. T. Overall, 120, 6, J. H. Barclay sur, 600 ft e of No. 1. Prairie O. & G. Co., Ranger, J. Hall, 1, L. H. McNeil sur, 2000 ft from n and 2500 ft from e line. Texas Co., Wichita Falls, J. McAdams, 40, 1, No. 244, H. Grazier sur, 150 ft from e and 230 ft from s line. Merrick & Belcher, Wichita Falls, Evans, 80, 5, B 6, P.C.S.L. sur, 300 ft w of No. 1 (Clay County). Taylor-Link Oil Co., San Angelo, M. C. Barker, 189, 2, S 105, E. T. Ry. sur, 450 ft from w and 150 ft from s line of se¼. Rex Tex Oil Co. & Py Tex Oil Co., Brownwood, L. L. Baker, 40, 2, B 630, M. A. Fisk sur, 300 ft e of No. 1.

CALDWELL COUNTY—Humble, Houston, C. Smith, B 30, 7, J. Hinds sur, 179 ft from s and 150 ft from e line.

CLAY COUNTY—Saxet Oil Co., Petrolia, Fee C 54, 3, B 14, P.C.S.L. sur, 450 ft from n and 475 ft from e line. Hi Land Oil Co., Wichita Falls, H. Boddy, 80, 1, B 27, A.C.S.L. sur, 150 ft from s and w lines of n½ of B 27. Saxet Oil Co., Petrolia, H. D. Stine, C 16, 1, B 24, P.C.S.L. sur, 150ft from n and w lines of lot 4; Stine, F 20, 11, B 2, P.C.S.L. sur, 150 ft from n and 440 ft from e line. Merrick & Belcher, Wichita Falls, Evans, 80, 5, B 6, P.C.S.L. sur, 300 ft w of No. 1.

CHAMBERS COUNTY—Humphreys Corp., Houston, Kirby Pet., 22, H4, H. Griffith sur, 50 ft from e and 30 ft from s line. Texas Co., Houston, J. F. Wilburn, 112, 1, H. Griffith. Yount-Lee Oil Co., Beaumont, Kirby Pet., 1, Wm. Hodges sur, 2626 ft from n and 2138 ft from w line; Chambers County Agricultural Co., 8, Wm. Bloodgood sur, 515 ft from n and 340 ft from w line. Pure Oil Co., Fort Worth, Lost Lake, 796, 3, Per. 11681 sur, 1300 ft from w and 1650 ft from n li Wallis sur. Mills Bennett Prod. Co., Houston, Hamman, 15, 3, H. Griffith sur, 1000 ft e of No. 2.

COMANCHE COUNTY—Humble, Wichita Falls, D. M. Folkner, 100, 1, No. 283, J. Shelton sur, 660 ft from n and w lines.

CARSON COUNTY—Gulf Prod. Co., Fort Worth, E. Cooper sur, 160, 4, S 5, B 9, H&GN sur, 330 ft from n and w lines of sw¼. Midwest Exploration Co., Amarillo, Cooper, 80, 4, S 5, B 9, I&GN sur, 330 ft from s and w lines w½ of nw¼. Reynolds Drilling Co., Pampa, Cooper, 80, 2, S 5, B 9, I&GN sur, 330 ft from s and w lines of e½ of nw¼. Phillips Pet. Corp., Bartlesville, Okla., D. Jordan, 160, 1, S 114, B 4, I&GN sur, 330 ft from s and w lines of sw¼.

CRANE COUNTY—Tidal Oil Co., Tulsa, Okla., University, I 160, 10, S 47, B 30, Univ. sur, 859 ft from w and 1255 ft from s li se¼.

COOKE COUNTY—Kewanee O. & G. Co., Tulsa, Okla., Lanier, B 105, 10, E. T. Ry. sur, 2730 ft from n and 150 ft from w line; 9, 1530 ft from n and 150 ft from w line. Danciger O. & R. Co., Fort Worth, J. F. Huggins, 70, 6, B 9, S. P. Ry. sur, 300 ft w of No. 4.

DONLEY COUNTY—Southland Oil Co., Amarillo, W. J. Lewis, 40, 1, S 3, B 29, H&GN sur, 580 ft from e and 660 ft from s line.

DALLAS COUNTY—Paris Oil Co., Dallas, D. D. Marks, 87, 1, A. Chumley sur, ne corner.

EASTLAND COUNTY — Warner-Quinlan Co., Dallas, J. H. Stamps, 320, 1, S 88, B 4, H&TC sur, 630 ft from w and 411 ft from s line of se¼. S. A. Hopkins, Cisco, W. Ray, 174, 1, S 69, B 4, H&TC sur, 1445 ft from e and 587 ft from s li of nw¼. Lone Star Gas Co., Petrolia, O. P. Storm, 640, 2, S 470, S. P. Ry. sur, 1985 ft from n and 700 ft from w line of sec.

ERATH COUNTY—Lone Star Gas Co., Petrolia, J. M. Cage, 2, J. Latham Jr., sur, 180 ft from s and 250 ft from w line of sur.

FALLS COUNTY—C. E. Groover, Waco, T. C. Westbrook, 1, J. J. Acosta sur, 3000 ft from n and 4600 ft from e line.

FISCHER COUNTY—Midwest Exploration Co., Amarillo, J. J. Steele, 80, 1, S 210 B 1, BBB&C sur, 689 ft from s and 440 ft from w li of sec.

GRAY COUNTY—Magnolia, Dallas, J. B. Bowers, 160, 1DDS, 63, B 82, H&GN sur, sw corner of nw¼. Danciger O. & R. Co., Fort Worth, Lester, 80, 1, S 10, B 1, ACH&B sur, 330 ft from w and 1210 ft from s li w½ nw¼. Humble, Wichita Falls, Wm. Jackson, 96, 3, S 90, B2, H&GN sur, 330 ft from n and e lines. Gulf, Fort Worth, P. A. Worley, A 160, 2, S 36, B 3, I&GN sur, 660 ft w of No. 1 in sw¼; 3, 660 ft w of No. 2. Humble, Wichita Falls, J. H. Palmer, 100, 1, S 31, B B2, H&GN sur, 330 ft from n and e lines. Panhandle Refg. Co., Wichita Falls, G. H. Saunders, 80, 3, S 3, B 1, ACH&B sur, 330 ft from s and w lines.

GLASSCOCK COUNTY—Sun Oil Co., Dallas, H. Phillips, 640, 1, S 14, B 33, T. & P. sur, 330 ft from s and 2310 ft from w line.

GRAYSON COUNTY—F H E Oil Co., et al, Sherman, A. Bryant, 160, 1, A. Dunnaway sur, 300 ft from n and 725 ft from e line.

HOWARD COUNTY—Godley Oil & Gas Co., Dallas, A. J. Hooks, 80, 16, S 140, B 29, W&NW sur, 200 ft from n and e lines. Ward Oil Co., Ardmore, Okla., D. Roberts, 80, 11, S 137, B 29, W&NW sur, 210 ft from n and 770 ft from w li n½ sw¼; 9, 1155 ft from n and 640 ft from w li n¼ of sw¼. Owen Sloan Oil Co., Shreveport, La., D. Roberts, 160, 14, S 136, B 29, W&NW sur, 990 ft from w and 330 ft from s li se¼. Continental Oil Co., Wichita Falls, W. R. Settles, A 400, A7, S 135, B 29, W&NW sur, 2310 ft from e and 1650 ft from s line. Humble, Wichita Falls, Texas, H. R. Clay, 320, 4, S 138, B 29, W&NW sur, 660 ft w of No. 2 w½ of sec.

HARDIN COUNTY—Sun Oil Co., Beaumont, Minor-Mayer, 3, 138, R. Teel sur, north of No. 137.

HARRIS COUNTY—West Prod. Co., Houston, Foster, 1, E. Votaw sur, 568 ft from w and 450 ft from s line. Humble, Houston, B. F. Williams, 4, W. W. Williams sur, 857 ft from n and 184 ft from w line.

HILL COUNTY—R. E. Moore, Inc., Fort Worth, J. C. Clark, 4, 1, O. C. Graves sur, 397 ft fromn and 110 ft from e line.

HUTCHINSON COUNTY—Midwest Exploration Co., Amarillo, R. C. Ware, 120, 2, S 124, B 4, I&GN sur, 330 ft from s and 1650 ft from e li ne¼; 1, 330 ft from s and e lines of ne¼.

IRION COUNTY—C. G. Cromwell, San Angelo, F. Tankersley, 200, 1, S 1219, T. C. Ry. sur, 150 ft from n and w lines of se¼. P. H. Williams, San Angelo, Ash, 160, 1, S 20, W. C. Ry. sur, se corner of nw¼.

JACK COUNTY—F H E Oil Co. and Kim-

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Aug. 24	Previous Week	Total this Month	Total this Year	This Week 1928	This Month 1928	1928 Year Total
Arkansas	4	3	16	102	7	..	331
California	33	30	95	876	..	75	1,207
Louisiana	16	16	67	557	21	53	680
Kansas	25	26	111	733	25	75	1,032
Oklahoma	89	79	343	2,277	66	310	3,744
Texas	184	197	773	5,745	138	559	8,297
Total	351	351	1,405	10,290	257	1,079	15,291

bell, Sherman, J. M. Daugherty, 100, 4, I. Hughson sur, 50 ft s of No. 2.

JONES COUNTY—Sedwick Oil & Gas Co., Abilene, E. Morrison, 80, 1, S 9, B 1, T&NO sur, 330 ft n of center of s li s½ of sw¼.

LIBERTY COUNTY—Houston Prod. Co., Houston, Barngrover, 6, 13, J. Devore sur, 50 ft from s and 107 ft from e line. Sun Oil Co., Beaumont, A. Mitchell, 100, 48, M. G. White sur, 62 ft from n and 242 ft from e line. Liberty Oil & Sulphur Co., Beaumont, Monroe, 15, 2, M. G. White sur, 220 ft from n and 50 ft from e line. Humble, Houston, R. S. Sterling, 6, J. McFadden sur, 700 ft e and 50 ft s of No. 5.

LOVING COUNTY — Humble, Wichita Falls, A. Kloh, 640, 1, S 35, B 55, T&P sur, center of section.

MILAM COUNTY—McCormick & Noack, Rockdale, Shelton, 50, 3, Wm. Allen sur, 280 ft s of No. 2. Texas Pet. Dev. Co., Cameron, M. Phillips, 80, D1, T. J. Chambers sur, 600 ft n of No. 14. E. L. Chapman, Fort Worth, W. T. Johnson, 2½, 1, D. Robinson sur, center; E. G. Knight, 50, 1, D. Robinson sur, 300 ft from n and e lines. I. P. Sessions, Rockdale, J. Bauer, 120, 7, T. J. Chambers sur, nw corner.

MOORE COUNTY—Fritch O. & G. Co., Amarillo, L. Bivins, 160, 1, S 4, G. Mahan sur, 660 ft from n and e lines.

NAVARRO COUNTY—Gibson & Johnson, Abilene, J. P. Boyd, 320, 1, S 42, B 20, T&P sur, center of w½ of ne¼. G. C. Kent, Corsicana, C. W. Lockhart, 75, 4, R.C.S.L. sur, 300 ft nw of No. 3.

ORANGE COUNTY—H. Galperne Oil Co., Abilene, W. W. Kyle, 75, 1, Wm. Allen sur, ne corner; 2, south of No. 1.

PECOS COUNTY—R. D. Webb, Fort Stockton, Fee, 640, 2, S 312, Blk, O. W. sur, sw corner. California Co., Midland, M. A. Smith, 640, 5, S 21, B 194, GC&SF sur, 2340 ft from w and 330 ft from n li survey; M. A. Smith, 8, S23, B 194, GC&SG sur, 3097 ft from w and 330 ft from s li sec.

PANOLA COUNTY—Eureka Nat. Gas Co., Shreveport, La., A. Jeter, 237, 1, J. Womack sur, 300 ft from n and e lines.

PALO PINTO COUNTY—Neeley & Halbert, E. Neal, 105, 1, B 14, G. M. Collingsworth sur, 660 ft from e and 995 ft from s li B 14.

REFUGIO COUNTY—Karona Oil Co., Refugio, Reilly, 40, 2, B 1, Refugio sur, se corner; M. West, 40, 1, Blk 3, Refugio sur, 185 ft from n and 150 ft from e line. Sun Oil Co., Beaumont, J. Buckley, 67, 1, Refugio sur, 150 ft from s and e lines; L. H. Johnson, 23, 1, Refugio sur, 150 ft from s and w lines.

REAGAN COUNTY—Skelly Oil Co., Tulsa, Okla., H. S. Grayson, 640, 4, S 33, B8, Univ. sur, 330 ft from s and 1650 ft from e li nw¼.

SHACKLEFORD COUNTY — Woods & Woods & Schkade, Albany, Schkade 80, 1, 570 TE&L sur, 150 ft from n and e lines of sec. P. K. French, Fort Worth, E. S. Davidson, 320, 1, S 184, E. T. Ry. sur, center of sw¼ of se¼. Merry Bros. & Perini, Inc., Fort Worth, W. P. Newell, 80, 3, S 11, B 12, T&P sur, 660 ft from s and w lines of s½ of se¼. Dull Earlis Texas Co., Albany, J. B. Matthews, 80, 10, S 32, B 1, E. T. Ry. sur, 450 ft from n and e lines se¼ ne¼. P. K. French, Fort Worth, E. S. Dawson, 320, 1, S 184, E. T. Ry. sur, center of sw¼ of se¼. Sedgwick Oil & Gas Co., Abilene, J. M. Proctor, A 40, 1, S 170, E. T. Ry. sur, 150 ft from s and w lines of sw¼ of ne¼. L. R. Barton & Co., Fort Worth, R. E. Collingsworth, 40, 2, S 12, Univ. Lands sur, nw corner. R. H. Manning, Fort Worth, G. E. Reynolds, 100, 5, S 11, B 11, T&P sur, 300 ft e of No. 3. S. B. Owens, Inc., Brownwood, Davis, 40, 1C, S 15, B 14, T&P sur, ne corner. Van Zandt & Eldredge et al, Albany, Dodson, 80, 1, S 1, Blind Asy. sur, 150 ft from s and w lines of s½ of sw¼. W. J. Armstrong et al, Cisco, W. Y. Davis, 80, 1, S 17, B 14, T&P sur, 1320 ft from n and 660 ft from e li e½ sw¼. W. F. Powell, Moran, C. B. Snyder, 80, 1, S 39, L. A. L. sur, 200 ft from n and 1470 ft from e line. Stout Owens Oil Co., Abilene, W. C. Owens, 22, 4, S 20, Bayland Asy. sur, 190 ft e of No. 1.

STEPHENS COUNTY—Hickok Prod. Co., Toledo, Ohio, M. M.Hamil, 160, 3, S 6, L.A.L. sur, 1320 ft from w and 880 ft from s li of ne¼. Texas Co., Wichita Falls, Blach, 21, 2058, TE&L sur, 534 ft from w and 818 ft from s line of sec. Lone Star Gas Co., Petrolia, S. M. Henry, 240, 2, S 53, B 7, T&P sur, 330 ft from n and 1000 ft from w li s½ sec; 3, 556 ft from s and 660 ft from w line. Byers O. & G. Corp., Ranger, B. R. Hatton, 160, 1, Wm. Nolen sur, 300 ft from n and w lines.

SCURRY COUNTY—J. G. Armand, Cam Springs, J. O. Guinn, 40, 1A, S 12, B 3, H&TC sur, se corner of ne¼ of se¼.

STARR COUNTY—Texas Co., Houston, V. C. Guererra, 599, 4A, Por. 67, 250 ft from w and 450 ft from s line.

THROCKMORTON COUNTY—J. A. Bearman, Cisco, Ledbetter, 80, 3A, S 2, S. P. Ry. sur, 630 ft from nw and 600 ft from sw line. Shappell Oil Co., Wichita Falls, U C S L, 40, B 98, U C S L sur, center. Beaty & Pelphry, Breckenridge, J. C. Mathas, 100, 1, 2240, TE&L sur, 450 ft from n and 160 ft from w line. Pennell, Ford & Millican, Loving, W. H. Downing, 100, 2, 913, TE&L sur, 320 ft w of No. 1.

TARRANT COUNTY—J. M. Hickey, Cisco, C. Maloney, 620, 1, S 11, MEP&P sur, 3000 ft w and 2280 ft from s line.

UPTON COUNTY—Humble, Wichita Falls, R. P. Ricker, 12, M. S. Denton No. 5 sur, 5008 ft from nw and 150 ft from ne line.

WICHITA COUNTY—Tedford Bros. et al, Wichita Falls, A. W. Burnside, 56, 6, J. M. Sharp sur, 310 ft n of No. 4. Arkansas Fuel Oil Co., Shreveport, La., Kemp & Kempner, 60, 19, B 82, W V F L sur, 780 ft from n and 450 ft from e line. F. F. B. Blair, Wichita Falls, Ward-Todd, 1, B 20, GC&SF sur, 38 ft from s and w lines; Ward-Todd, 1, S 1, B 20, Ward-Todd sur, 38 ft from s and e lines. McCarty Oil Co., Wichita Falls, S. Mitchell, 50, 11, B4, P. Castleman sur. Rybsam & Hunter et al, Wichita Falls, W. D. McClure, 40, 10, B 5, GC&SF sur, 50 ft n of No. 6. Grayce Oil Co., Wichita Falls, Chilson, 20, S3, B 1, M. Ramsey sur, 300 ft s of No. S2. Golding & Cochran, Wichita Falls, Waggoner A 120, 10, S 22, H. George sur, 274 ft e of No. 8. Douglas Prod. Co., Box 85, Electra, L. P. Douglas, 100, B11, B 2, DL&C sur, 840 ft from n and 540 ft from w line. T. F. Hunter, Wichita Falls, J. & J. Waggoner, 24, E1, S 1, B 3, GC&SF sur, 750 ft from n and 600 ft from w line. T. F. Hunter, Wichita Falls, T. J. Waggoner, 40, C6, S 2, B 10, GC&SF sur, 300 ft from n and e lines. Tedford Bros. et al, Wichita Falls, A. W. Burnside, 56, 7, J. M. Sharp sur, 300 ft nw of No. 6.

WILBARGER COUNTY—Lion Oil & Refg. Co., El Dorado, Ark., W. T. Waggoner, 280, B1, S2, B 5, H&TC sur, 150 ft from n and e lines of sw¼ se¼; W. T. Waggoner, 280, 1, S 28, B 4, H&TC sur, 150 ft from n and e li se¼ of nw¼. G. R. Ridgeway, Wichita Falls, R. L. Castlebury, 40, 9, S 83, B 14, H&TC sur, 900 ft from e and 150 ft from s line.

WINKLER COUNTY—Humble, Wichita Falls, I. Hendrick, D 160, D1, S 41, B 26, 330 ft from s and e lines of sw¼. Atlantic Oil Prod. Co., Dallas, I. Hendrick, F 160, 14, S 40, B 26, 810 ft from s and 535 ft from w li nw¼; T. G. Hendrick, B 80, 6, S 44, B 26, 330 ft from n and 2310 ft from e line.

WHARTON COUNTY—Ferdinand Heine, Jacksonville, W. J. Woytek, 20, 120, B 10, S. F. Austin sur, 100 ft from w and 300 ft from s line.

WASHINGTON COUNTY — Washington Oil Co., Houston, F. C. Schwartz, 200, 1, E. Clampitt sur, center.

WHEELER COUNTY—Johnston & Company, Shamrock, J. A. Hall, 40, 1, S 49, B 17, H&GN sur, 192 ft from w and 600 ft from s line. Consolidated Gas Utilities Co., Oklahoma City, M.E. Ackley, 10, ,5, S 4, B 27, H&GN sur, center of nw¼ of nw¼ of nw¼.

WILLIAMSON COUNTY—Ray Oil Co., San Antonio, W. J. Fouse, 221, 1, W. Donoho sur, 800 ft n of center of s line.

YOUNG COUNTY—A. H. Parks, et al, Abilene, Johnson, 40, 1, B 3, W. Sargent sur, 150 ft from e and 380 ft from s line of Blk. 3.

ZAPATA COUNTY—H. Muckleroy Jr., Laredo, I. G. Travino, 40, 3, S 412, B 25, 300 ft from e and 460 ft from s line. O. W. Killam, Laredo, R. Cuellar, 160, 15, J. M. Pereda sur, 812 ft from n and 1448 ft from w line. Killam & Duggan, Laredo, E. Cuellar, 640, 6, S 277, T. C. Ry. sur, 2904 ft from e and 940 ft from s line.

LOUISIANA

BOSSIER PARISH—Jones Chemical Co., McDade, Fee 3, 32-16n-11w, 400 ft n and 400 ft w of se c nw.

CADDO PARISH—Standard Oil Co. of La., Shreveport, Caddo Parish School Board 1, 16-19n-14w, 330 ft s and 330 ft e of nw c of sec. The Texas Co., Shreveport, Caddo Levee Board 72, 27-21n-16w, 725 ft n and 210 ft e of sw c se.

CAMERON PARISH—Calcasieu Oil Co., Union Sulphur Co. & Magnolia Petroleum Co., Sulphur, Lemke 3, 36-12s-10w, 1345 ft w and 671 ft s of se c Sec. 13 in Sec. 36. Seaport Oil Corp., Lake Charles, John H. Duhon 1, 22-12s-10w, 50 ft n and 50 ft w of se c of Sec. Yount-Lee Oil Co., Beaumont, Tex., W. H. Stark 1,1-15s-15w, 1500 ft s and 1100 ft e of nw c of Sec.

LA FOURCHE PARISH—Texas Gulf Sulphur Co., Thibodaux, Mrs. W. H. Stark, et al 24, 64-15s-15e, 350 ft n and 1000 ft w of se c of Sec.

LA SALLE PARISH—Tunica Pet. Co., Inc.,Shreveport, L. & A. Oil Co. 50, 16-7n-2e, 200 ft n and 660 ft e of sw c nw. Tunica Pet. Co., Shreveport, L. & A. Oil Co. 51, 16-7n-2e, 660 ft n and 200 ft e of sw c nw.

OUACHITA PARISH—Southern Carbon Co., Monroe, Fairbanks 13, 4-19n-4e, 2502 ft n and 1500 ft w of se c of Sec.

RICHLAND PARISH — Austin-McDonald Monroe, Millsaps 5, 8-17n-6e, 2640 ft n and 1320 ft w of se c of Sec. Hope Producing Co., Monroe, J. H. Hemler 1, 11-16n-6e, 660 ft s and 660 ft w of ne c of Sec.

SABINE PARISH—Arkansas Fuel Oil Co., Shreveport, S. R. Horne et al 2, 33-10n-12w, 860 ft n and 300 ft e of nw c se sw. Magnolia, Shreveport, E. E. Hall 3, 33-10n-12w, 460 ft n and 200 ft w of se c nw sw.

TERREBONNE PARISH—Charles Paggi, Beaumont, Tex., Evergreen 1, 145-15s-16e, n 15 degrees 48 ft e 783 ft from sw c of Sec.

WEST CARROLL PARISH—H. L. Hunt, Inc., El Dorado, Ark., Chickasaw Imp. Co. 1, 24-23n-11e, 200 ft s and 330 ft e of nw c nw ne.

ARKANSAS

ASHLEY COUNTY—J. G. Marcum Tr., McGarry 1, 300 ft w 150 ft s center of Sec. 10-19-4.

LITTLE RIVER COUNTY—Cliff F. McDonald, W. E. Black 1, 240 ft n 450 ft w se c se ne, 12-13-18.

OUACHITA COUNTY—The Texas Co., Avera 1, 250 ft n 250 ft e sw c, 35-15-15.

UNION COUNTY—Edwin M. Jones, Hardy-Murphy 1, 216 ft n 256 ft w se c sw, 34-19-14.

OKLAHOMA

CARTER COUNTY—Ven Mex Oil Co., Eason 3, nw ne se, 19-1s-3w; Ven Mex, Denny 2, sw, 20-1s-3w; Ven Mex, See 2, ne sw se, 23-1s-3w; Ven Mex, McGahey 1, nw, 29-1s-3w; Ven Mex, Pierce 1, se nw ne, 30-1s-3w. C. R. Smith, Fee 3, nw se ne, 27-2s-3w, (owdd).

COMANCHE COUNTY—Bridwell et al, Porter 1, ne se se nw, 17-1s-11w.

COTTON COUNTY—Baldwin and Sultan, Rhone 3, sw se se, 35-1s-10w. Wirt Franklin, Chambers 1, ne sw se, 35-1s-10w. Silurian, et al, Cullum 3, ne se ne nw, 2-2s-10w.

CREEK COUNTY—Texas Pacific Coal & Oil, Beaver 10, nw, 17-16-9e. Blackwell O. & G., Tiger 12, nw se sw, 17-17-7e. W. B. Pine et al, Tiger 2, nw sw se, 17-17-17e. Magnolia, Lewis 11, se sw sw, 27-17-7e. Skelly et al, Walker 1, ne nw se, 23-17-8e. Kurell, Davis 2, se, 11-17-11e. Operators, Boles 1, sw nw sw, 10-19-9e. Gypsy, Grayson 1, sw, 16-19-9e. H. U. Bartlett, Hutton 1A, se ne, 17-19-9e.

HUGHES COUNTY—Erwin et al, Jones 1, se ne, 30-5n-10e. W. B. Pine, Davis 1, nw, 17-5-8e. Furhman Pet., Buck 2, (owdd) e sw sw, 21-9-10e. Amerada, Ott 1, se sw, 15-5-11e.

JEFFERSON COUNTY—Superior, Nesmith 1, sw se se, 2-7s-7w.

LINCOLN COUNTY—Magnolia Pet., Staubus 2, ne sw se, 8-14-4e. Prairie, Curry 1, se nw se, 8-14-4e.

LOGAN COUNTY — J. S. Cosden, Inc., Gardner 4, se nw, 31-19-4w.

MUSKOGEE COUNTY—W. E. Lightner et al, Sullivan 1, nw ne, 30-14-16e. C. D. Bradley, Taylor 1, nw sw se, 7-14-19e. J. R. Shaw et al, Townlot 1, nw sw nw, 35-15-18e.

NOBLE COUNTY—Peerless et al, Wentz 1, nw sw, 22-22-1e.

OKFUSKEE COUNTY—Champlin Oil & Re-

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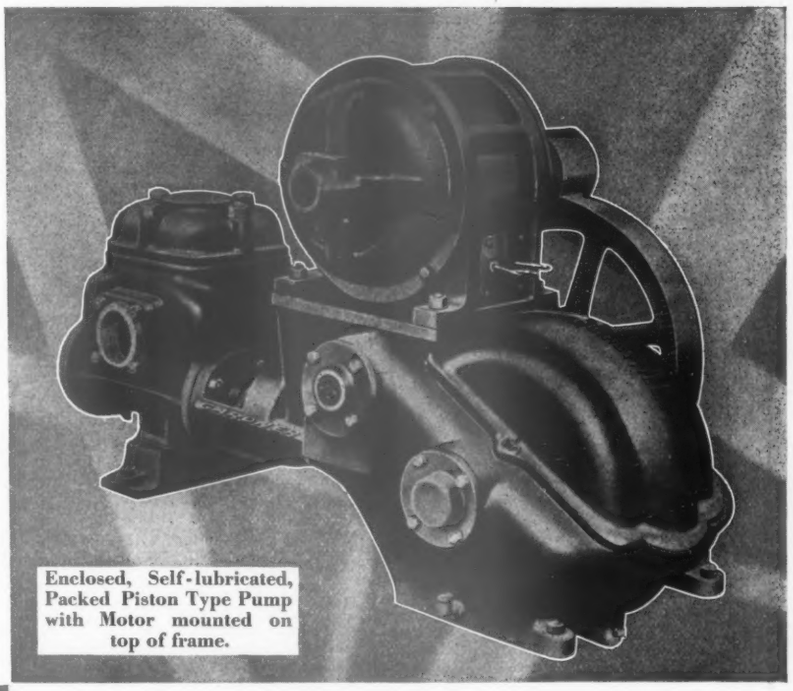

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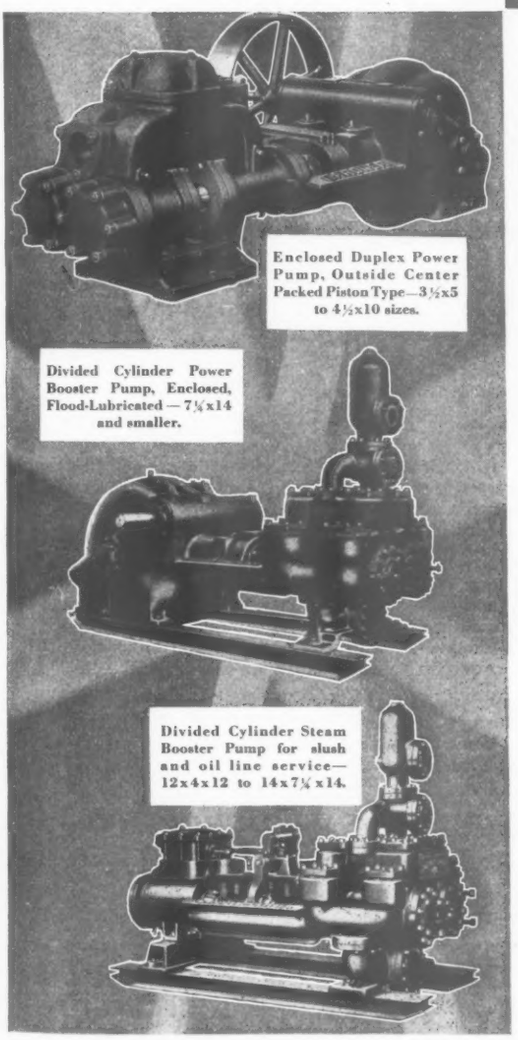

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& Empire Gas & Fuel, Darr 12, sw ne sw, 15-11-11e, (twin).

OKLAHOMA COUNTY—Indian Territory Illuminating et al, Jennings 2, sw ne se, 13-11-3w. Indian Territory Illuminating et al, Peterson 1, ne sw, 25-11-3w. Skelly, Hoopes 1, nw ne, 31-11-2w.

OSAGE COUNTY—Wrightsman 1, nw se, 32-22-8e. Branstetter and Barnsdall 4, cel se, 22-22-11e. A. G. Oliphant et al 1, ne sw, 13-24-6e.

PAWNEE COUNTY—Ray Sears et al, Wiggs 5, c ne nw, 35-20-9e. Lee et al, Townlot 1, nw ne se, 25-20-9e.

PAYNE COUNTY—Transcontinental, Shannon 1, nw se sw, 24-18-4e.

PONTOTOC COUNTY—Ramsey et al, Milner 9, nw se se, 18-5-8e; Ramsey et al, Millner 8, se ne se, 18-5-8e. Benedum and Trees, Mole 6, sw nw ne, 31-5-5e; Benedum and Trees Oil, Bullard 1, ne se nw, 31-5-5e. Transcontinental, Bolen 2, ne sw nw, 19-5-5e.

POTTAWATOMIE COUNTY — Superior, Songster 2, sw nw nw, 8-9-5e. Gypsy, Green 6, se ne se, 17-7-4e; Gypsy, Green 5, nw ne se, 17-7-4e. Empire, Bettis 2, ne se se, 17-7-4e. Magnolia, Hilton 2, se nw nw, 22-7-4e; Magnolia, Anderson 1, sw, 1-7-4e. Tidal et al, Bulley 1, sw nw, 3-8-4e. Sunray et al, Bourbonnais 1, ne, 28-7-5e. Indian Territory Illuminating, Weldfelt 2, nw ne nw, 2-7-4e. Darby, Bettis 1, sw, 21-7-4e; Darby, Floyd 1, nw sw se, 22-7-4e. Oklahoma Crude Oil Company, Townlot 1, ne nw nw, 19-6-4e.

SEMINOLE COUNTY — Continental & Shaffer, Harris 6, nw sw sw, 4-7-7e. Independent, and White Eagle, Davis 5, se sw se, 2-7-6e. Magnolia, Cruse 5, sw se se, 2-7-6e. Sinclair, Phillips 7, se, 5-7-7e. The Texas, Hotuke 8, nw sw nw, 23-7-6e. Gypsy, Renton 4, nw ne ne, 11-7-6e. Independent, Harris 14, sw nw nw, 23-7-6e. Amerada et al, Earles 1, nw se, 32-9-6. Burke-Greis et al, Powell 1, nw ne sw, 17-9-6e. Amerada & Dixie Oil, Scott 1, nw sw, 19-9-6e. The Prairie, Calkins 3, ne nw sw, 18-9-6e. Louisiana Oil Ref., Reed 6, nw ne ne, 18-5-8e. Indian Territory Illuminating, Mathis 2, nw sw, 13-5-7e. Magnolia, Parney 1, ne se, 14-5-7e. Carter, Mayhue 2, se sw, 11-9-6e. Continental and Shaffer, Harris 5, sw, 4-7-7e. Sinclair, Phillips 6, ne se se, 5-7-7e. Magnolia, Naifer 1, sw, 18-7-7e. The Texas, Dindy 2, nw ne sw, 24-7-6e. Carter, Jackson 5, ne nw ne, 11-7-6e. Barnsdall, Lust 1, sw ne, 13-5-7e. Sunray, Sunday 1, nw se, 25-5-5e.

STEPHENS COUNTY—Shell, Peiree 1, sw se se, 2-1s-4w. Wirt Franklin, Drake "B" 3, ne sw ne, 12-1s-4w. Lone Eagle, Simpson 13, sw ne se, 34-1e-8w. Magnolia, Kagay 25, ne nw sw, 34-1s-8w; Magnolia, Kagay 26, nw ne sw, 34-1s-8w; Magnolia, Burke 5, nw ne nw se, 34-1s-8w, (owdd). Ellis Drlg., Nigh 7, ne se sw nw, 34-1s-8w. Roy Carter, Simpson 9, sw nw se se, 34-1s-8w.

WAGONER COUNTY—James Sewell et al, Denton 1, ne se sw, 13-17-15e. C. Longacre et al, Kelly 1A, cnl se nw, 15-17-16e.

CALIFORNIA

ELWOOD—Caroline C. Spalding 1, 16-4-29. Elwood Expl. Co., Elwood 1, 22-4-29. C. J. Mahoney, Mahoney 1, 22-4-29.

HUNTINGTON BEACH—Camp Oil Co., Inc. 1, 1-6-11.

KERN COUNTY—Eastern Sunset Oil, Ltd., Reardon 1, 6-11-22.

KETTLEMAN HILLS—Standard Oil Co. 278, 33-21-17.

LONG BEACH—Richfield Oil Co., Duncan 5, 24-4-13. Dabney-Johnston Oil Corp. 42, 24-4-13. A. T. Jergins Synd. 9, 13-4-13. Woolner Oil Corp., L. B. Fee 1, 13-4-13.

MIDWAY—Standard Oil Co. 124, 1-32-23.

MT. POSO—Pacific-Western Oil Co., Rench 4, 22-27-28.

MONTEREY COUNTY—H. B. Chessher 1, 8-23-9.

RINCON—C. C. M. O. Co., Hobson A2, 23-3-24; B-8, 17-3-24.

ROUND MOUNTAIN—Shell Oil Co., Jewett 7, 29-28-29.

SAN LUIS OBISPO CO.—Dollar Oil Co., Jones 1, 24-32-22.

SANTA FE SPRINGS—General Pet. Corp., Jalk 115, 6-3-11. St. Helens Pet. Co., Ltd., Hill 2, 6-3-11. Standard Oil Co., Johnson 7, 6-3-11. Shell Oil Co., G.H.N. 30, 31-2-11; Slusher B3, 6-3-11; Slusher 20, 6-3-11. Standard Oil, Koontz 12, 6-3-11. The Texas Co., Matern No. 2-11, 6-3-11; Matern 2-12, 6-3-11; Matern 2-13, 31-2-11.

SUMMERLAND—Lincoln Drlg. Co. 2-A, 21-4-26.

SUNSET—North American Oil Cons., Sunset 4, 8-11-23. Hancock Oil Co., Maricopa 2, 8-11-23. Doyle Pet. Corp., Son-Crail 1, 8-11-23.

VENTURA—Shell Oil Co., Taylor 11, 29-3-23; Taylor 47, 28-3-23.

KANSAS

BARTON COUNTY—T. B. Slick et al, Sweeney 1, sw ne, 34-17-11w.

BUTLER COUNTY—Tom Johnson, Beadles 2, sw ne, 8-27-6e. Alladin, Sharron 1, se nw, 24-27-3e. E. W. Marland, Inc., Jones 1, sw ne sw, 19-27-4e.

COWLEY COUNTY—E. B. Shawver, Ligget 2, se nw nw, 15-31-3e. Reynolds and Wasson, Watts 1, ne nw, 15-33-3e. E. B. Shawver, Oldham 1, nw se, 23-32-3e.

ELK COUNTY—Fleming et al, Bascom 1, sw, 9-29-9e.

ELLIS COUNTY—Jamot Brow et al, Gerstner 2, ne, 13-18-18w. Streeter and Stearns, Leiker 1, sw ne, 26-13-20w.

GREENWOOD COUNTY—Tidal, Stanhope 7, (owdd) csl ne nw, 22-26-8e. Empire, Edwards "B" 5, se, 21-23-11e; Empire, Edwards "A" 3, ne nw sw, 36-23-11e. Central, Cartwright 7, cwl ne nw, 6-24-10e.

KINGMAN COUNTY — White Eagle, Lorenz 1, ne sw se, 25-27-5w.

MARION COUNTY—White Eagle, Ucker 1, ne nw 24-17-2e.

McPHERSON COUNTY — Shell,, Ritz 3, nw ne sw, 1-20-2w. Gardner Pet., Benson 1, owdd, c nw sw 32-18-2w.

RENO COUNTY—Empire, Belts 1, ne nw, 36-25-4w.

RICE COUNTY—Curtis et al, Green 1, c nw, 33-19-6w.

SEDGEWICK COUNTY — Graham Bros., and Shell Pet., Bogue 1, se sw sw, 15-26-2e. Graham Bros. Baker 1, ne sw sw, 15-26-2e.

SUMNER COUNTY—Continental, Padgett 2, sw 23-34-3e. Lario, Henderson 1, nw sw, 21-30-1w.

WOODSON COUNTY — Harper, Reed 1, nw se 28-23-14e.

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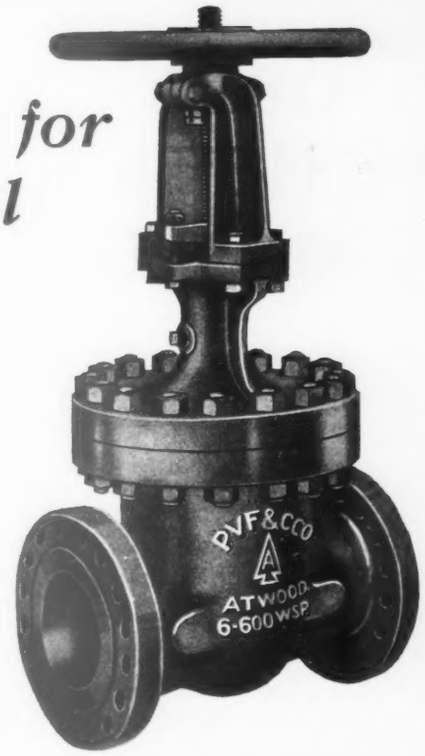

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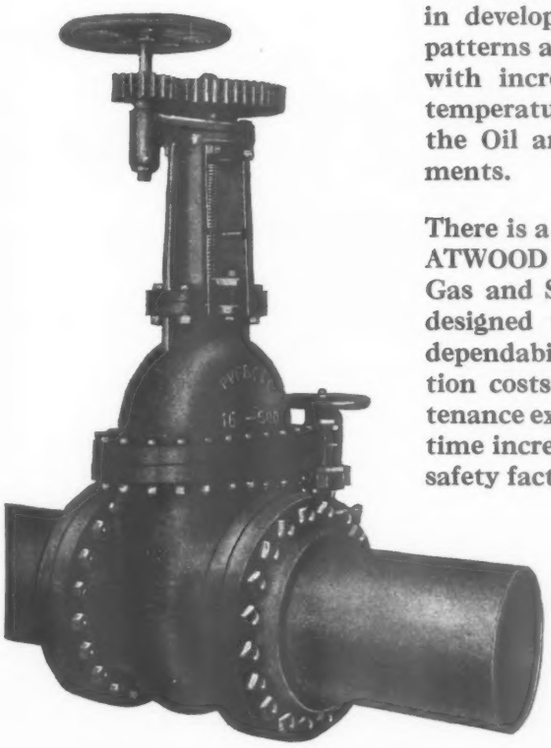

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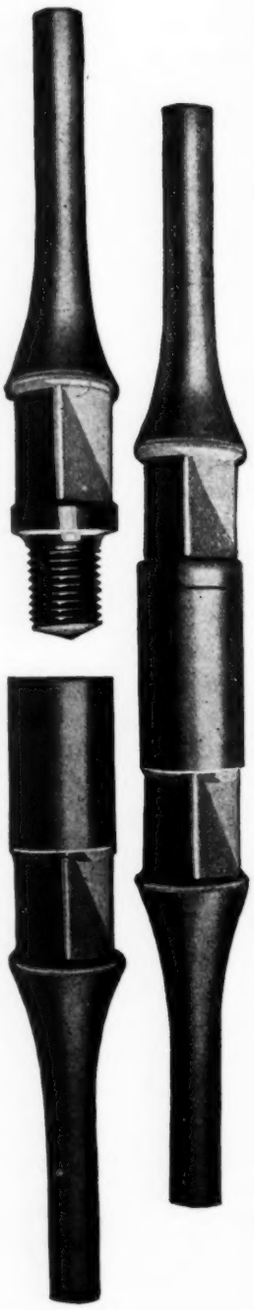

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ALL STEEL HAND HOIST

TRADE MARK

SEATTLE, U.S.A.

Part of a Day's Work

When you are equipped with a Beebe Bros. Hand Hoist—an emergency hoisting or pulling job is just part of a day's work. You perform it quickly and safely with minimum man-power—that is why this convenient hand hoist pays for itself in so short a time. Any of the many users will gladly tell you about it.

Weight 110 lbs.

Capacity FIVE TON STRAIGHT LINE

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POSITIVE INTERNAL BRAKE

Construction Eight Pieces Electrical Steel Without Keys or Setscrews

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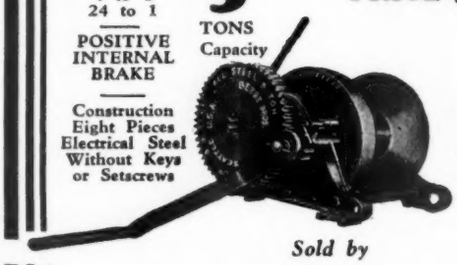

Steel Tail Hold Yoke $4 Extra. Truck Attachment Plate, $10 Extra

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THE NATIONAL SUPPLY COMPANIES

Tribal Osage Oil Leases at Public Auction September 20, 1929, By United States Government

At Pawhuska, Oklahoma, about 20,000 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual installments, with acceptable security. Within advertised area there are about 9,850 wells producing from one barrel to 100 barrels each, the total daily production for June, 1929, being about 42,000 barrels; also, there are about 30 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for twenty-five cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs or other information.

WILDCATS FROM ALL SECTIONS

OKLAHOMA

WOODS COUNTY—T 28n, R 16w, Sec. 14, Peerless Oil Co. et al's Cromwell 1, c sw se, sd 980 ft.

GRANT COUNTY—T 28n, R 4w, Sec. 12, Boucher et al's Dedmon 1, sw se, dr 1750 ft.

KAY COUNTY—T 28n, R 1w, Sec. 24, DeCamp & Lancer, Covey 1, sec nw, dr 1855 ft.

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair's Share 1, c ne sw, cemt 8-in 5105 ft.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros.' Forbes 1, ne se nw nw, sd 1420 ft.

GRANT COUNTY—T 27n, R 5w, Sec. 20, J. V. Bailey's Brewer 1, c sw se, bldg rig.

HARPER COUNTY—T 26n, R 24w, Sec. 14, Sinclair's Howell 1, c sw sw, dr 2425 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent et al's McNeal 1, nwc ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil Co.'s Cooper 1, nwc se, sd 4182 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu Vi Bar et al's 1, sec sw, dr 5765 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden's Vollmer 2, nec se ne sw, lost tools 5640 ft, sd.

WOODWARD COUNTY—T 24n, R 17w, Sec. 32, Otstot's Simmons 1, sec, sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller et al's Copenhaver 1, nwc, sp and sd.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, Washoma's Acre 1, swc ne, rig.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pule & Beamer's White 1, sec nw, hfw 4730-4800 ft, td 5556 ft, rep rig.

WOODWARD COUNTY—T 23n, R 20w, Sec. 9, Billy Oil Co.'s Wyatt 1, c se, hfw 3807-25 ft, dr 3955 ft. T 23n, R 17w, Sec. 2, John Farrand's Belva 2, csl sw se, sd 1387 ft.

MAJOR COUNTY—T 23n, R 16w, Sec. 4, Wilson et al's Creech 1, nec sw, sd 510 ft.

NOBLE COUNTY—T 22n, R 1e, Sec. 22, Peerless et al's Wentz 1, nwc sw, lcn. T 22n, R 1e, Sec. 24, Gypsy's Dailey 1, sw ne nw, cemt 8-in at 4344 ft.

WOODWARD COUNTY—T 21n, R 21w, Sec. 25, Sharon's Elmore 1, swc, rig blown down, 3025 ft, td. T 21n, R 19w, Sec. 15, Burgoyne Bros.' Merklin 1, sw se ne, sd 1910 ft.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keller et al's Horton 1, c ne ne, sp and sd.

NOBLE COUNTY—T 20n, R 1w, Sec. 26, Magnolia's King 1, sec sw, hfw 3730-3780 ft, dr 4008 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet.'s Phillips 1, c nw sw, dr 2945 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drlg. Co.'s Quier 1, sec sw, sd 3970 ft.

KINGFISHER COUNTY—T 16n, R 7w, Sec. 6, Gault Brown's Bech 1, c nw se, (owdd), show gas 4088-6128 ft, dr 5235 ft. T 16n, R 6w, Sec. 27, Crawford & McKenna's Sturgeon 1, nec sw, sd 4895 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears' Piatt 1, swc nw, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 1w, Sec. 13, T. B. Slick's Martin 1, c nw nw, dr 2350 ft.

TEXAS COUNTY—T 1n, R 15 E.C.M., Sec. 25, Skaer et al's Hitch 1, nwc, sd 250 ft.

OSAGE COUNTY—T 26n, R 7e, Sec. 19, Peters Pet. 1, sec, dr 1350 ft. Sec. 23, White Eagle 1, nwc ne se, ur 10-in at 1260 ft. T 24n, R 6e, Sec. 13, A. G. Oliphant et al's 1, nec sw, lcn. T 23n, R 10e, Sec. 32, Union Oil & Mining Co.'s 1, sec sw, hf oil 2513-28 ft, testing.

PAYNE COUNTY—T 18n, R 6e, Sec. 4, Consolidated Drlg. Co.'s Freeman 1, swc, ur 10-in 1317 ft.

LINCOLN COUNTY—T 17n, R 4e, Sec. 27, Blackwell O. & G. C.o's McKeown 1, ne sw sw, dr 2900 ft. T 17n, R 5e, Sec. 7, Mote & Wheeler's McLaughlin 1, se nw nw, dr 860 ft. T 17n, R 6e, Sec. 28, F. R. Billingslea's Davis 1, se ne ne, sp. T 16n, R 5e, Sec. 1, Flynn & Morgan's Johnson 1, swc ne, r.o.g. T 14n, R 6e, Sec. 33, Magnolia's Mitchell 1, nec, dr 4500 ft. T 12n, R 3e, Sec. 29, Phillips' Roberson 1, sec nw, dr 1760 ft.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 35, Henry Oil Co.'s Harjo 1, nwc, lcn. T 12n, Range 10e, Sec. 3, Shepard et al's Shepard 1, se nw sw, sp. T 11n, R 10e, Sec. 9, C. O. Buckles et al's Tarvin 1, nwc se, lcn.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports; *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

PITTSBURGH COUNTY—T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, swc nw se, show oil 5446-70 ft, 1M gas 5464-80 ft, shot 240 qts 5556-59 ft, co.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co.'s Saunders 1, nw ne sw, 2M gas at 1800 ft, sd 2692 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O. & G. Co.'s Murray 1, swc, 1½ M gas 2518-30 ft, show gas 3380-3400 ft, set 5-in 3950 ft, co.

OKLAHOMA COUNTY—T 12n, R 1w, Sec. 10, Mid-Kansas & Ramsey's Trosper 1, nec nw, dr 6708 ft. T 12n, R 2w, Sec. 30, Magnolia's Noble 1, nwc sw sw, fsh 6443 ft.

OKFUSKEE COUNTY—T 11n, R 7e, Sec. 6, Superior's Carolina 1, sec, fsh 2859 ft.

SEMINOLE COUNTY—T 10n, R 5e, Sec. 28, McCulloch et al's Luckett 1, nec nw, dr 2760 ft. T 10n, R 6e, Sec. 12, I. T. I. O.'s Chatkey 1, swc ne, dr 2993 ft.

HUGHES COUNTY—T 9n, R 12e, Sec. 29, Canady et al's Kanard 1, swc nw nw, rig.

POTTAWATOMIE COUNTY—T 8n, R 3e, Sec. 9, Cal Cul's Wilson 1, nw ne nw, dr 3760 ft. T 8n, R 4e, Sec. 3, Tidal et al's Bulley 1, swc nw, lcn. Sec. 9, Keister & Manning's Tibbes 1, nec sw, dr 1410 ft.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner's Vandeveer 1, ne nw sw, sd 3120 ft.

POTTAWATOMIE COUNTY—T 7n, R 3e, Sec. 15, Amerada & I. T. I. O.'s Vineyard 1, nw ne ne, dr 4040 ft. Sec. 19, Frank Moore's Fundis 1, sec ne, lcn. T 6n, R 3e, Sec. 11, Shaffer & Margay's Adams 1, nec, dr 3967 ft.

McCLAIN COUNTY—T 6n, R 3e, Sec. 36, Sikes et al's Cook 1, sw nw ne, rig.

SEMINOLE COUNTY—T 6n, R 6e, Sec. 8, E. L. Harris' Harjoche 1, se ne se, sp and sd.

POTTAWATOMIE COUNTY—T 5n, R 5e, Sec. 4, I. T. I. O.'s Philpot 1, nwc, lcn.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney's Huddleston 1, sec sw, fsh 3935 ft. T 5n, R 11e, Sec. 15, Amerada's Ott 1, sec sw, lcn.

PONTOTOC COUNTY—T 4n, R 8e, Sec. 23, Independent's Hampton 1, nec se, hfw, dry and abn 3690 ft, complete.

PITTSBURG COUNTY—T 4n, R 12e, Sec. 32, Kerr & Key's Tall 1, c nw nw, co 2520 ft.

COAL COUNTY—T 2n, R 8e, Sec. 6, J. S. Cosden's Richardson 1, nw ne ne, sd 2648 ft. Sec. 7, McGinley & Sigler's Wiltsey 1, nw se se, dr 2619 ft. Sec. 10, E. W. Whitney's Miller 1, sec ne, sd 202 ft. T 1n, R 11e, Sec. 10, I. T. I. O.'s Cook 1, se sw sw, sd 7890 ft.

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt's Wellman 1, c se, sd 100 ft.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Bucy & Stone's Williams 1, c sw, lcn. T 11n, R 26w, Sec. 4, L. C. Hivick's Davis 1, c nw ne, sd 1240 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey's Robinson 1, c ne nw, sd 150 ft.

BECKHAM COUNTY—T 8n, R 22w, Sec. 20, Carson et al's Denby 1, sw se ne, dr 1560 ft.

GREER COUNTY—T 6n, R 24w, Sec. 17, I. T. I. O. et al's Fee 1, c ne, running 12-in 1902 ft.

CADDO COUNTY—T 6n, R 13w, Sec. 8, Abernathy & Brown's Horton 1, sec, sd 527 ft. T 6n, R 10w, Sec. 26, English Drlg. Co.'s Gardner 1, dr 1600 ft. T 5n, R 17w, Sec. 2, N. P. McWhirter's Sherwood 1, swc ne, dr 1105 ft.

HARMON COUNTY—T 4n, R 26w, Sec. 8, S. M. Stauffer's Castleman 1, nwc se, sd 625 ft.

JACKSON COUNTY—T 1n, R 20w, Sec. 4, Houseman et al's Northington 1, nec, sd 2020 ft.

COMANCHE COUNTY—T 1s, R 11w, Sec. 17, Bridwell et al's Porter 1, nec se se nw, r.u.r.

STEPHENS COUNTY—T 2s, R 4w, Sec. 21, Magnolia's Martin 1, swc, bldg rig.

COTTON COUNTY—T 4s, R 9w, Sec. 31, Amerada's DeLand 1, se nw nw, td 3348 ft, dry and abn, complete.

JEFFERSON COUNTY—T 5s, R 7w, Sec. 35, Monohan & Porter's Paddock 1, cnl nw ne, dr 2510 ft. T 6s, R 7w, Sec. 13, Pearce & Brown's Fisher 1, sec sw, dr 2253 ft. T 7s, R 7w, Sec. 2, Superior's Nesmith 1, sw se se, rig.

McCLAIN COUNTY—T 5n, R 3e, Sec. 16, Homackla's Newton 1, se ne ne, drlg out cemt 2800 ft.

GARVIN COUNTY—T 4n, R 2e, Sec. 8, Tidal et al's Halverson 1, c sw ne, hfw 4052-55 ft, sd 4055 ft.

MURRAY COUNTY—T 1n, R 2e, Sec. 15, Revel & McGee's Wolfe 1, nwc, td 2510 ft, hfw dry and abn, complete.

JOHNSTON COUNTY—T 1s, R 7e, Sec. 29, Smith & Kinsley's Lane 1, sec nw, sd 2250 ft.

CARTER COUNTY—T 3s, R 4w, Sec. 23, Porter & Manahan's Robinson 1, sec nw, rig. T 4s, R 1e, Sec. 32, Leonard Woodruff's Zellner 1, ne ne se, hfw 2125-30 ft, dr 2130 ft. T 4s, R 2e, Sec. 32, Tex-Okla's Anderson 1, se ne se, sd 420 ft.

MARSHALL COUNTY—T 5s, R 5e, Sec. 17, Jordan et al's Pen Mutual 1, nw ne se, sd 360 ft.

BRYAN COUNTY—T 9s, R 9e, Sec. 36, W. C. Endicott et al's Craige 1, c nw ne, sd 1700 ft.

WOODWARD COUNTY—T 23n, R 17w, Sec. 23, Prairie O. & G. Co.'s Wilbur 1, nec, dr 5050 ft.

CLEVELAND COUNTY—T 10n, R 2w, Sec. 8, Prairie, Phillips & Slick's Sudik 1, c ne ne, drlg 7027 ft.

MISSISSIPPI

Completion Company, Well and Location	Initial Production Bbls.	Depth
MONROE COUNTY (Amory Dist.)—		
Armory Nat. Gas Co., Carter 1, 17-13-17	¶¼	2592

ALCORN COUNTY — Alcorn Pet. Co.'s Matthews 1, 14-2-7, dr limestone 2350 ft.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 20-13-13, trying shut off quicksand 1240 ft.

CLAIBORNE COUNTY—Ben White's Old Hen 1, 36-10-4, fsh drill pipe td 1973 ft.

HARRISON COUNTY (Gulfport Dist.)—Dalton Oil Co.'s Lopez 1, 15-7-10w, lcn.

HINDS COUNTY (Jackson Dist.)—Mrs. Ella Rawls Reeder's State Land 1, 25-6-1, sd 2895 ft. Hennessey et al's Riverside 1, 23-16-5, sd 105 ft. Southern Christian Institute's Fee 1, 29-6-4, dr limestone 127 ft.

HUMPHRIES COUNTY—Steel et al's Love 1, 30-14-3, sd 60 ft.

LAFAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, dk, (formerly carried Collette et al's Fee 1.)

LAUDERDALE COUNTY (Meridian Dist). Meridian Nat. Gas Co.'s Mattie Houser 1, 33-8-18, co ready to resume dr in sand and shale 1868 feet. Lauderdale O. & G. Co.'s Lackey 1, sd after coring sand 2237 to 2242 ft. J. E. Smith Oil Co.'s Craig 1, 2-6-14, dk.

LINCOLN COUNTY (Brookhaven Dist.)—Miss. Land & Oil Co.'s Pat Case 1, 21-8-6, sd after setting 12½-in cas 368 ft.

LEE COUNTY—Lee County Pet. Co.'s Hickman 1, 12-8-6, sd 920 ft.

MONROE COUNTY (Amory Dist.)—Amory

Pet. Co.'s Hall 1, 8-13-17, hole cleaned out arr bail, gas show 2387 ft, td 3045 ft. Amory Dev. Co.'s Bourland 1, ur cas 2580 ft. Amory Nat. Gas Co.'s Carter 1, 17-13-17, 200,000 ft gas, td 2592 ft. Ark. Nat. Cas Corp.'s Rye 1, 22-15-17, ready to resume dr in dark sand 3676 ft. Park Bowser's Cowart 1, 2-12-19, arr resume with drive pipe.

WARREN COUNTY (Vicksburg Dist.)—Henderson et al's Dornbusch 1, 8-18-5, dr sand 1902 ft.

WEBSTER COUNTY — Cumberland Oil Co.'s Henley 1, 15-21-11, t. a. 1865 ft.

YALABOUSHA COUNTY (Water Valley)—Philp Bros.' James 1, 20-11-5w, sd to repair bit, in hard sandstone, td 2947 ft. J. D. Collette et al's Blackmer 1, 14-11-4w, lcn.

ALABAMA

CHOCTAW COUNTY—Robinson & Greer's Douglas Oil Co. 1. 15-9-2, dr 1010 ft. Gulf Ref. Co.'s Thornton 1, 21-9-2, dr 1400 ft. Dease 1, 33-9-2, lcn.

LAMAR COUNTY—Briggs & Knapp's Wefel 1, 25-12-14, arr set 6-in cas in dark sandy limestone 1040 ft.

LAWRENCE COUNTY — Peerson Drlg. Co.'s Jacobs 1, 11-7-7, t.a. 300 ft.

MARION COUNTY — P. J. McAlpine's Clark 1, 29-11-14, lcn.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, sp.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd 650 ft. Hobson Bros.' 1, 9-8-2, ur sand and shale 1370 ft. Oscar Brown's U. S. Land & Cotton 1, 26-3-2, no report.

TENNESSEE

DECATUR COUNTY—Standard Oil Co. of La.'s Wyatt 1, repr engine td 1260 ft. Chester County O. & G. Co.'s Montgomery 1, arr set 6-in cas in gray lime 1045 ft.

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
CALHOUN COUNTY—		
Ohio Oil Co., Stout Lbr. Co. 1, 31-14-12	*	3615
COLUMBIA COUNTY—		
T. R. Brown et al, Spencer 1, 18-18-22	*	3505

CALHOUN COUNTY — Ohio Oil Co.'s Stout Lbr. Co. 1, 31-14-12, dry abn, td 3615 ft. Phillips Pet. Co. et al's Freeman-Smith Lbr. Co. 1, 25-16-13, dr 2305 ft.

COLUMBIA COUNTY — Jacob Laskin et al's Dennis 1, 11-20-23, tested sw 3567 ft, drilled to 3696 ft, arr to plub back to 3600 ft to bail again. T. R. Brown et al's Spencer 1, 18-18-22, dry abn, td 3505 ft. Helena O. & G. Co.'s Pickler 1, 19-19-22, sd 2762 ft.

FAULKNER COUNTY—Gold Creek O&G Co.'s Stermer 1, 17-4-13, TA 3782 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, sd for water 3042 ft. Chaywood Oil Co.'s Malvern Lbr. Co. 1, 17-2-17, wo 1668 ft.

GRANT COUNTY — Jones & Watkins' Meek 1, 5-4-11, TA 1400 ft.

LINCOLN COUNTY — Pine Prairie O&G Co.'s Carter 1, 33-10-6, arr resume dr 2176 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 31-12-31, TA 2941 ft.

LOGAN COUNTY — Ark. La. Pipe Line Co.'s Hanna 1, 26-7-23, dr 3130 ft.

OUACHITA COUNTY—Copenhaver et al's Warnick 1, 2-15-17, sd wo 1100 ft. Flaucher et al's Bucks 1, 7-15-17, TA 2465 ft. Lohman et al's Fogle 1, 18-14-16, sd 1510 ft. Timberlake et al's Wright 1, 25-14-18, sd wo 2907 ft. Wesson et al's Booth 1, 12-15-19, sd 2203 ft. McDonald Oil Corp.'s Wilson A-2, 25-15-18, cored sand 2765 ft, arr bail. Houston Oil Co.'s Wilson B-4, 25-15-18, dk. Geo. Kouri et al's A. Wilson 1, dr 2500 ft. E. M. Jones' Wilson A-1, 26-15-18, tested sw through ds 1655-69 ft, fsh tongs 2313 ft. Atlantic O. P. Co. & E. M. Jones' Allen C-1 25-15-18, lcn.

PULASKI COUNTY—Wonder State Dev. Co.'s Wilson 1, 21-2-11, lcn.

UNION COUNTY—Modisett et al's Union Sawmill 1, 1-18-14, dr 1950 ft. S. Arrendale's Gallagher & Nelson 1, 18-18-17, sd 2268 ft. W. M. Coates, Tr.'s, McDuffie 1, 32-19-16, cemtd 6⅝-inch cas 3934 ft, td 4056 ft. O. W. Estes' Ramsey 1, 24-17-14, dk. McDonald Bros.' Mayfield 1, 29-19-15, TA 2210 ft. Ohio Oil Co.'s Stout Lbr. Co. Acct 2, 30-16-13, dr 2830 ft. Stark et al's Ainsworth 1, 8-19-16, dk. T. J. Woodley's First National Bank 1, 34-19-18, dk. J. P. Hawkins et al's Goodwin 1, 6-17-15, tested sw after coring 2210-19 ft, sd 2219 ft. Addy & Modisett's Union Sawmill Co. 1, 25-19-12, lcn. E. M. Jones' Henry Murphy 1, 34-19-14, lcn. Simon et al's Welch 1, 30-19-17, lcn.

MOUNTAIN STATES

MONTANA

BLAINE — Midwest6, se 35-32n-19e, lcn. Midwest 1, 34-32-19e, 20M at 902 ft.

CARBON—Ohio Oil Co., Northern Pacific 2, 11-7s-21e, dr 3370 ft.

CARTER—Montasota Oil Co., Zimmerman 1, 7-8s-58w, dr 730 ft.

CASCADE—Lone Star, 13-21-3e, fsh cave at 845 ft. U. S. Pete Co., Miller 1, sw 8-21-4e, dr 1250 ft.

FERGUS—Melton Corporation, sw 24-21n-17e, fsh 2700 ft.

GALLATIN—California Co., Ringling 1, 35-5n-7e, dr 1700 ft.

GLACIER—Jos. Drumheller et al., Yunck 1, nw 1-34-6w, spray oil 2751 ft.

HILL—Jones Oil Co., Brown's Coulee 1, nw 32-34-14e, cas trouble at 1050 ft. A. G. McFarland, sw 15-30-13e, dr 2000 ft.

LIBERTY—Square Deal Oil Co., Federal Land Bank 1, se 1-32-7e, fsh 3080 ft. Western Nat'l Gas Co., Townsend 2, 22-37-4e, plugging back from 2300ft. Cypress Oil Co., 36-28-6e, sbn 2800 ft.

LAKE—Missoula-Flathead Oil Pools Co., nw 31-21-20, repairs.

PETROLEUM — Minnesota-Flatwillow Oil Co., 1, sw 5-12-25e, water trouble at 1298 ft. Minnesota-Flatwillow Oil Co., 3, se 5-12-25, spudded.

PHILLIPS—Big Dome O&G Co., Bloomberg 1, ne 1-32n-32e, run cas 2455 ft.

PONDERA—Miller Bros., Bruins 1, ne 17-28-1w, rig. Adams Co., Trustee, sw 29-29-1w, dr 1860 ft. Midwest, 36 Snortland, se 27-27-3w, dr 95 ft. Hammond et al., Katen 1, 24-26-1w, dr 1400 ft.

RICHLAND—D. J. Carter, 11-22n-59e, mvg in.

SWEETGRASS — H. F. Stewart, 5-2n-22e, ream 3208 ft. Six Shooter, 17-3n-19e, set 15½-inch at 715 ft.

TETON—Ohio Oil Co., State 1, nw 16-24-2, abn 1800 ft, sulphur water. L. B. O'Neil, 16-25-5w, dr 1150 ft. Texas Prod. Co., nw 21-26-4w, dr 650 ft.

TOOLE—Monalta Oil Co., Ltd., Buckley 1, se 1-37-4w, dr 1780 ft. Anaconda Pete Co., ne 19-36-2e, dr 150 ft. Mahan et al., Lee 1, 10-31-1w, dr 2250 ft. International Royalty Holding Co., se 21-35-1e, spudded and sd to complete rigging. Vashti Pete Co., sw 17-33-1e, 4M at 784 ft.

WYOMING

BIG HORN—P & R, 3, 24-56-98, 3M gas at 4185 ft. Ohio Oil Co., Easton 1, 35-56-97, 6½M at 2616 ft. Cody Pete, Wilcox 1, 27-57-96, sd 1320 ft.

CARBON—P & R, Hatfield 3, 2-19-88, sd 4003 ft. C. E. Bivens et al, Baggs 1, 35-13-92, dr 1500 ft. P. & R., Grenville 2, 28-21-86, sd 435 ft; P. & R., Grenville 3, 28-21-86, spudded 65 ft.

CONVERSE—Criterion Oil Co., ne 5-31-70, dr 3200 ft.

FREMONT—P. & R. Muskrat 2, 8-33-91, stand 313 ft for repairs. Kinney-Coastal, 22-3-1, stand 3358 ft, 2M gas. Texas Prod. Co., State 1, 36-34-95, dr 682 ft.

HOT SPRINGS—Texas Prod. Co., sw 23-45n-100w, dr. Midwest 8, 6-44-98, crooked hole 290 ft. Gebo Cons. Oil Co., 23-43-95, dr 300 ft.

LINCOLN — Midwest, Waterfall 1, 35-22-115, abn 3920 ft. Midwest, Grey's River 1, 25-37-117, dr 1507 ft.

NATRONA—Prairie O&G Co., Baird 1, 22-31-81, dr 3300 ft.

PARK—P. & R., Pitchfork 1, 14-48-102, recem 1558 ft. Midwest, Rosenburg 36, nw 25-95-98, dr 2898 ft. Rosenburg 1, 26-58-98, dr 1450 ft. Ohio, Burlington 1, 21-53-101, dr 1320 ft.

SWEETWATER—Mtn. Fuel Supply Co., Tucker 1, 18-13-99, sd 2580 ft. Mtn. Fuel Supply, Humphreys 1, 2-12-101, dr cem 3852 ft. Mtn. Fuel Supply, Otto Arnold 1, 24-19-104, try to plug back. Mtn. Fuel Suply Co., Newberger 1, 13-12-101, dr 2200 ft. Vermillion Oil Co., sw 16-12-100, prep to resume 620 ft.

UINTA—California Co., U. P. 1, 1-17n-119w, dr 3644 ft. Park City Oil Co., Christensen 1, 6-15n-113w, stand. Doheny, 6-14-118, dr.

WESTON—Wyo. Drlg. Synd., 15-44-64, dr 5000 ft. Gose Synd., 28-47-64, pull 4¾-inch at 4855 ft. Fiddler Creek Synd., 11-45-64, cave at 950 ft.

NEW MEXICO

CHAVES—Warman et al, 1, sw 23-13-24, dr 235 ft. Transcontinental, Robbins 1, 1-14s-28e, dr 4200 ft. Cactus Prod. Co., Sullivan 1, 14-10s-28e, dr 85 ft.

DE BACA—Matador Oil Co., State 1, sw 6-4n-20e, dr 2590 ft. Pittsburg Oil Co., 1, ne 16-1s-27e, wait for casing 4506 ft. Transcontinental, McWhorter 1, 6-35-22e, dr 4478 ft.

LEA — Midwest, Leach 24, nw 15-19-38, standing cemented. Midwest, Gregory 22, sw 31-25-37, drilling in and testing, td 3315 ft. Gypsy Oil Co., Mattern 1, 24-21-36, sdtr lost tools 3580 ft. Gypsy Oil Co., Humphreys 1, sw 25-24-36, dr 3455 ft. Exploration Co., Record 1, 26-19-35, td 4556 ft. Texas, Moberly 1, se 17-26-37, sd 3542 ft. Cranfill & Reynolds's Meyer 1, 26-19-35, sw 22-24-36, temp compl; Cranfill & Reynolds' State 1, se 2-21-33, bit lost 3660 ft. Empire Gas & Fuel's Closson 1, se 6-22-36, try kill 40M gas 3540 ft. Vacuum Oil Co. 1, 14-17-34, test 4900 ft. Pueblo Oil Co.'s McGeorge 1, ne 30-20-33, dr 3285 ft. Empire-Henderson et al's Martin 1, ne 28-20s-33e, abn 3905 ft. Buell & Hagen's State 1, ne 13-11s-35e, dr 1827 ft. Conoco's Myers 1, sw 17-21 36e, dr 2920 ft; Meyer 1, nw 28-22s-36e, dr 1485 ft; Flint 1, se 29-20s-34e, stand 3770 ft; McAllister 1, 24-26-36, dr 3200 ft. Marland's Wells 1, ne 11-25-36, dr 3500 ft. Shell Pete. Corp.'s Terry 1, ne 22-19-38, hole trouble 1565 ft. Humble O. & R. Co.'s Bowers 1, 30-15-38, dr 3000 ft. Cook et al's State 1, ne 12-21-33, contr compl 3800 ft. Rector Oil Co.'s King 1, sw 27-25s-32e, dr 3350 ft. Walker et al's Terry 1, se 10-19s-38e, dr 3625 ft. Texas Pacific Coal & Oil Co.'s State 2, sw 21-22-36, dr 3215 ft. Magnolia Pete. Co.'s Lindley 1, ne 26-25-36e, dr 1400 ft. Maljamar O. & G. Corp.'s Bais 2, ne 21-17-3e, dr 2025 ft. Reynolds Dr. Co.'s Merchant 1, nw 15-22-34e, dr 1635 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, oil show 2238 ft. San Juan Coal & Oil Co. 1, se 27-18n-9w, to run 5 3/16-in at 2110 ft. Williams et al's A. T. S. F. 1, sw 19-18n-8w, dr 915 ft.

ROOSEVELT—J. T. Keegan et al's Pepper 1, 6-1s-36e, ready to spud. Smith & Sloan's Lovern 1, se 4-3s-36, to run 8¼-in at 3765 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29-7, dr 797 ft.

SAN JUAN—Dorothy Oil Co., 29-30-9, dr 825 ft. Kutz Canon O. & G. Co.'s Day 1, 20-22-10, ur 900 ft. Blackrock Oil Co. 1, sw 11-25-13, sd 1550 ft. Angel Peak Oil Co.'s Kutz Canon 1, 11-28n-11w, fsg bailer, gassing 3100 ft. Greathouse et al's Roderick 1, sw 11-22-14, prep to run 6⅝-in casing to shut off water at 700 ft. Childers Dr. & Pr. Co.'s Westwater 2, nw 34-31-18, lower 6⅝-in cas. Reserve Oil Co.'s Shaffer 2, ne 1-21-14, dr 575 ft.

SAN MIGUEL—Pioneer O. & G. Co.'s Thunderbird 1, nw 14-15-16, dr 1970 ft. Starr Oil Co.'s Adams 1, ne 25-17-16, dr 2085 ft.

SOCORRO—Arnold et al 2, ne 13-6-1e, sd 1975 ft.

TORRANCE—Bluhall O. & G. Co., 20-6-10, stand 1800 ft. Sinnock et al's Kutchin 1, ne 13-7-7, td 197 ft, sd indefinitely. Williams et al's Staplin 1, ne 16-8n-10w, dr 500 ft.

VALENCIA—Rio Puerco Oil Co.'s N. M.-Ariz. Land Co. 2, nw 13-6-2, wait pipe 3145 ft, water shortage. Acme Oil Co.'s N. M.-Ariz. Land Co. 1, 26-6-3, ur at 3915 ft.

COLORADO

ADAMS—N. M. Slatt's Hills 1, se 27-3s-64w, dr 512 ft.

ARCHULETA—Juanita Oil Co.'s Harvey I, sw 4-32n-3w, stand 725 ft.

BENT—Marland Oil Co.'s Pipe Springs 1, se 27-29-49, dr 4600 ft.

DELTA—Crawford O. & G. Co., ne 28-15s-1w, dr 332 ft.

DOLORES—Transcontinental's Glade 1, nw 30-41-16, fsg 4005 ft.

ELBERT—Belmont Oil Co.'s Maher 1, sw 4-6s-59w, dr 3555 ft.

JACKSON—Midwest's Rich 21X, nw 9-6-8,

XUM

dr 1575 ft. P. & R.'s Henderson 1, 2-6-81, ur, td 2365 ft.

JEFFERSON—Ruby Hill O. & G. Co.'s Braden 1, se 14-4s-69w, dr 3365 ft.

LAS ANIMAS—Parker Club and Kinney-Coastal, 4-28-68, sd 3016 ft. Trinidad Dev. Co.'s Flanta 1, sw 23-32-63w, dr 175 ft.

LARIMER—Barrows et al, 7-11s-68w, sd 2000 ft. 5-Square O. & G. Co.'s State 1A, sw 16-4n-69w, sd.

LA PLATA—Royal P. & R.'s Red Mesa 1, resum 860 ft. Detroit Oil Assn's Olbert 1, sw 9-35-12w, dr 1863 ft.

LINCOLN—Kelly Oil Co.'s State 1, ne 36-14-57, dr 2461 ft.

MESA—High Line Oil Co.'s Hoel 1, ne 23-8s-104, prep to resume 2717 ft.

MOFFAT—McLaughlin et al's Wms 1, 2-3-91, dr 4115 ft. McCormick et al's Sales 1, se 28-4n-92, dr 2971 ft. Vermillion O. & G. Synd. 1, se 23-9n-100w, dr 360 ft.

MONTROSE—Uncompaghre O. & G. Co.'s Colo. Title & Trust 1, 27-50-10, dr 2070 ft.

PUEBLO—Beulah Dome Oil Co.'s Hedland 1, 72-23-57, casing at 500 ft. Boone O. & G. Co.'s Ritter 1, nw 33-18-60, fsg 3037 ft.

RIO BLANCO—White Eagle's Fordham 1A, sw 9-2-96, sw 9-2-96, dr 2310 ft. Texas Prod. Co.'s Potter 1, sw 30-2n-96w, dr 2945 ft.

ROUTT—Midwest 10, nw 4-7-86,dr 1010 ft.

YUMA—Major Pete's Black Wolf 1A, sw 7-2-43, carry 12½-in at 1400 ft. Phillips' Andres 1, nw 3-2-42, dr 2745 ft.

WELD—Platte Valley Pete. Corp.'s Patterson 1, sw 23-8n-61w, sd 4400 ft.

CALIFORNIA

SOUTHERN CALIFORNIA

BELVEDERE—W. H. Taylor's Hellman 1, 32-1-12, dr grey, sd 5155 ft.

CALABASAS—Pugh-Miller Drlg. Co.'s Colyear 1, susp 2547 ft.

CHATSWORTH—Russell Pet. Co.'s Joughin 2, dr sandy shale 2020 ft.

CLEARWATER—The Texas Co.'s Montana Land 1, rmg 4729 ft.

COMPTON—Calif. Well Drlg. Co.'s Del Amo 1, dr shale, streaks sand, gas showings, 7785 ft.

EL MONTE—Morgan West's Sing 1, fshg for dr pipe 625 ft.

FULLERTON—Shell Oil Co.'s Bastanchury 1, dr hard sandy shale 5005 ft.

HAWTHORNE—Standard Oil Co.'s Freeman 1, dr brown shale, streaks hard sand 6862 ft.

HUNTINGTON BEACH — Featherstone-Preston's Borchard 1, susp 3725 ft.

MONTEREY PARK—Monterey Park Pet. Co.'s Jepson 1, dr limey shale 5090 ft.

NEWHALL—P. B. Anderson's 1, 1-3-16, dr hard shale 560 ft. Southern California Drlg. Co.'s Needham 1, dr out, bailed down, top fluid 550 ft, td 1386 ft.

NEWPORT—Mesa Pet. Corp.'s B & A 1, 16-6-10, susp 4895 ft. Oilwell Eng. Co.'s Interstate 2, cmt 8¼ 2780 ft, td 2800 ft.

PIRU DIST.—Coastline Oil Co.'s Mazie 1, dr hard sandy shale 875 ft. Pico Dome Oil Co.'s 1, 14-3n-16w, susp 650 ft. Sunset-Pacific Oil Co.'s Hasley Canyon 1, abn 3212 ft. J. M. Queen's 1, 22-3-16, idle 190 ft.

POMONA—Pomona Oil Assn's 1, 32-1-18, running 6¼-in cas, td 1208 ft.

PUENTE HILLS—R. C. Rucker's Grazide 1, dr hard sand 2145 ft.

RICHFIELD—Southwestern Oil Co.'s Day 1, dr out cmt tested wet, td 5777 ft, will run 4¾ cas and set at 4800 ft. Superior Oil Co.'s Schroeder 1, rig.

SOUTH LOS ANGELES—Burlington Pet. Corp.'s Hamm 1, td 2190 ft, set 4¾-in cas at 600, tested wet, will recmt. L. P. Edwards' Wilson 1, rig. Geo. Hanners' Stallman 1, rig rty. Lee & Brainerd's Owens 1, rig. R. B. Jackson's Cady 1, rig.

TELEGRAPH CANYON—Union Oil Co.'s Rimpau 1, dr hard shale 760 ft.

VENICE—Ohio Oil Co.'s Recreation Gun Club 1, dr hard shale 3445 ft.

WHITTIER—R. W. Jackson's Flory 1, td 1449 ft, 8¼-in cas stdg recmt 1100 ft.

RIVERSIDE—Hall Pet. Co.'s Watt 1A, 23-7-3, rig. Hemet Pet. Co.'s Ward 1, td 3307, 3100 4¾-in cas, bailing for test. Trabuca Oil Co.'s 1, dr hard sand 3835 ft.

SAN BERNARDINO CO.—Mahala Oil & Gas Co.'s 1, 13-3-8, idle 4010 ft. Urmi Oil Co.'s Schuh-Zellers 1, dr sandy shale 456 ft. Western-Pacific Oil Co.'s 3, stdg 3370 ft.

SAN DIEGO—Borderland Expl. Co.'s Encinitas 1, rig. S. S. Turner's Baler 1, dr hard sand 2035 ft.

NORTHERN CALIFORNIA

KERN COUNTY

BELRIDGE—Calkern Oil Co.'s 1, 18-28-22, new lcn. Ozena Oil Co.'s 2, 27-29-21, dr blue shale 1110 ft. Ventura-Pacific's 1, 18-29-22, sdtkg 3115 ft, td 3375 ft. K. C. Wallace's 1, 32-29-21, dr sticky brown shale 1820 ft.

BENA DIST.—Elmer Oil Co.'s 1, 15-30-30, rig rty.

EDISON—Frank Heyd's Cannon 1, 26-29-29, material. Symark Oil Co.'s 1, 24-29-29, dr tough shale 1390 ft. The Texas Co.'s Newman 1, 23-29-29, new lcn.

GOULD HILLS—Elmer Oil Co.'s 1, 2-29-20, dr brown shale 3620 ft. Elkhorn Oil Co.'s 1, 20-28-20, dr brown shale 1095 ft.

KERN RIVER—Gatton & Gould's 1, rig up, td 1450 ft.

LERDO (East)—Shell Oil Co.'s Ansolabehere 1, 5-29-27, td 4189 ft, pumpg water into formation under pressure.

McFARLAND—General Pet. Corp's KCL Co. 7, 25-26-25, dr hard brown shale 6080 ft.

McKITTRICK—Pioneer Dev. Co.'s 1, 28-30-22- 4¾-in cas 2730, stdg cmt. U. S. Royalties Co.'s Foreman 1, 6-30-23, rig.

ROSEDALE—Elmer Oil Co.'s Houghton 1, 33-29-26, rep rig.

SHALE HILLS—Day Oil Co.'s 1A, 1-27-18, dr hard brown shale 1410 ft.

TEMBLOR HILLS—Union Oil Co.'s W. P. 1, 27-32-23, td 4958 ft, bailing; Williams 1, 22-32-23, dr brown shale 2752 ft.

SANTA BARBARA COUNTY

ARLIGHT—Standard Oil Co.'s Sudden 1, 35-6-26, dr hard sand 552 ft.

BETTERAVIA—Shell Oil Co.'s U. S. A5, 36-10-23, rmd to bottom, td 2301 ft; U. S. A6, 25-10-35, dr 200 ft.

BUELL CANYON—Union Oil Co.'s Buell 1, dr brown shale 1586 ft.

CARPENTERIA—Continental Oil Co.'s Kitty Bailard 1, fshg for dr pipe 4565 ft.

CASMALIA—Keystone Oil Co.'s Paderewski 1, 33-10-34, dr sandy shale 1080 ft. Wildcat Oil & Royalties' Donovan 1, 20-10-35, rmg hole, td 1422 ft.

GIBRALTAR DAM—Pacific-Western Oil Co.'s 1, 14-5-27, grading.

GOLETA—Barnsdall Oil Co.'s Edwards 3, dr hard shell 2485 ft. General Pet. Corp.'s More 1, td 4533, flwg through traps, 15 mi cu ft gas, 10 bbls gasoline 12 hrs. Pet Securities' Bishop 1, dr brown shale 4178 ft.

LOMPOC—Gaviota Oil Co.'s Marrietti, 9-7-35, rig up.

LOS ALAMOS—L. B. O'Neil's Orena 1, dr shale 3190 ft.

NAPLES—Pacific-Western Oil Co.'s Wiley Ranch 1, 7-4-29, fshg 3920 ft.

ORELLA—General Pet. Corp.'s Erburu 1, dr sand and boulders 312 ft. Shell Oil Co.'s Rutherford 1, 36-5-31, coring 5595 ft.

POINT CONCEPCION—Western-Gulf Oil Co.'s Hollister 1, dr blue and brown shale 3558 ft.

SANTA MARIA—Rice Ranch Oil Co.'s Brookshire 11, dr brown shale 2690 ft. System Oil Co.'s Bradley 1, 36-10-34, td 4280 ft, 13⅜-in cas set 4129, stdg cmt.

SURF—Keystone Pet. Co.'s True Ranch 1, dr sandy shale 2210 ft.

VERONICA SPRINGS—Southern Expl. Co.'s 1, 29-4-27, rig. Veronica Springs Synd.'s Bryce 1, 30-4-27, dr sand and shale 360 ft.

VENTURA COUNTY

CASITAS—E. J. Miley's Casitas 2A, 12-3-24, dr hard sand 1675 ft.

FILLMORE—Frank Oil Co.'s 1, 35-4-20, dr hard sandy shale 1990 ft.

LOCKWOOD VALLEY—Lockwood Valley Oil Co.'s 1, 28-8-21, dr shale and sand 270 ft.

OJAI—Bishop Corp.'s 1, 14-8n-22w, grade. Calif.-Ventura's LaCrosse 1, dr brown shale 3609 ft. Continental Oil Co.'s Sulphur Mt. 1, 21-4-22, td 2260 ft, 11¾-in cas set 2256, stdg cmt.

SANTA PAULA—Bryant's Anlauf 4, rig. San Pedro-Pt. Fermin's 1, 13-4-21, rmg 988 ft.

PIRU—Bolsa Chica Oil Co.'s Snow 1A, 4-4-18, dr brown shale 741 ft. Pacific-Western Oil Co.'s Tehmescal 5, 3-4-28, td 4518, co to 3276.

RINCON CREEK—Associated Oil Co.'s Snowball 1, 19-4-24, grading roads.

SATICOY—Standard Oil Co.'s Citrus 5, 10-2-22, td 7586 ft, resumed drilling.

SIMI—Shell Oil Co.'s Marr 1, 31-13-17, td 3525 fshg.

MISCELLANEOUS

COALINGA—Pet. Securities' Ladd 1, 28-20-16, dr hard grey sand 5319 ft. Rio Grande Oil Co.'s 1, 14-13-17, new lcn. Section 30 Oil Co.'s 2, 30-19-15, dr oil sand 825 ft, prep to run 8¼-in cas.

JOAQUIN RIDGE—Currency Pet. Co.'s 1, 28-21-14, rebldg rig.

KERMAN DIST.—Hornaday & Huggins' 1, 32-14-28, dr sandy shale 4006 ft.

WESTHAVEN—Shell Oil Co.'s Boston Land Co. B, 26-19-18, prep to deepen; Boston Land Co. D, 17-19-19, prep to deepen; Boston Land G, 6-20-18, coring 1060 ft.

KINGS COUNTY

DEVILS DEN—H. B. Porter's 1, 9-24-7, rig up.

TULARE LAKE DIST.—J. E. O'Donnell's 1, 7-23-30, rig.

MENDOCINO CO.—Twin State Oil Co.'s Soldani 1, 14-12n-17w, dr 650 ft.

KING CITY—Union Oil Co.'s Paige 1, 8-22-8, fsh for bit, td 1560 ft. Standard Oil Co.'s Piedmont 1, dr brown shale 220 ft.

PARKFIELD DIST.—Garney Pet. Co.'s Braden 1, 19-23-15, rig, heavier equip.

PLEYTO DIST.—Marland Oil Co.'s Nacimiento 1, 32-24-11, td 5955, temp susp.

SAN ARDO—Shell Oil Co.'s Dudley 1, 15-22-9, prep to swab, td 3765 ft.

SAN LUCAS—Producers Oil Co.'s 1, 30 21-9, material.

TEMBLOR HILLS—Thos. H. Purnell's 1, 12-32-22, fsh for dr pipe 3560 ft.

WESTERN SAN LUIS OBISPO—Midwest O. & R. Co.'s Porter 1, 34-31-15, fsh for bailer 2035 ft. Painted Hills Oil Co.'s 1, 34-30-10, dr brown shale 2130 ft. Panorama Oil Co.'s 1, 7-31-21, fsh for 4¾-in cas, td 4010 ft. Paso Robles Synd.'s 1, 27-27-11, dr shale 2814 ft. Pismo Dome Oil Co.'s 2, 5-31-13, co 1075 ft. Texas-Pacific Coal & Oil Co.'s Dutton 1, 25-32-14, dr brown shale 2410 ft. Union Oil Co.'s Russ 1, dr hard brown shale 3743 ft; Chandler 1, 12-32-15, dr blue shale and shell 3917 ft.

TULARE COUNTY—Pet. Securities' Vedder-Hart 1, dr hard sand 1649 ft.

KANSAS

STEPHENS COUNTY — Trees Oil Co.'s Candy 1, sw ne sw 3-35-38w, td 500 ft, mvg in rotary.

SUMNER COUNTY — Davidson et al's Strikland 1, sw se, 12-35-1w, rig. White & Chaney's Unknown 1, nec 11-34-2w, rog.

STEPHENS COUNTY—W. Sidwell et al's Kelly 1, sw ne 16-34-38w, sd 1310 ft.

BARBER COUNTY — Skelly's Temple Ranch 1, sw ne 13-34-15w, dr 2960 ft.

HARPER COUNTY—Slick's Miller 1, 13-34-8w, dr 9560 ft.

SUMNER COUNTY—Mid Continent's Clark 1, sec 31-34-3w, dr 3590 ft. Morgan & Carey, Hawkins 1, sw se 9-34-1e, dr 2120 ft. Shell's Armstrong 1, nec 12-33-1e, dr 395 ft.

BARBER COUNTY — Robertson et al's Powell 1, c se se, 11-32-10w, dr 2100 ft.

HARPER COUNTY—Slick's Thompson 1, nwc 10-32-6w, 8-inch cas 4606 ft, stdg.

COWLEY COUNTY—J. B. Markey's Tatum 1, se sw 11-31-6e, sd 500 ft.

SUMNER COUNTY—Lario's Henderson 1, nw sw 21-30-1w, rig.

COWLEY COUNTY — Landon & Slick's Daniels 1, nec se 6-30-5e, dr 2880 ft.

KINGMAN COUNTY—Gypsy's Kincaid 1, ne nw 18-29-5w, fsh, td 4523 ft.

SEDGWICK COUNTY — Johnson & Marshall's Roy 1, c ne se sw 23-29-1w, dr 3420 ft, top lime 3365 ft. Lario Teachoiff 1, ne sw 27-19-1w, sd 2800 ft.

BUTLER COUNTY—Empire's Parks 1, ne nw 36-29-4e, dr 2880 ft.

PRATT COUNTY—Jones & O'Haver Lunt 1, csw nw 15-28-14w, dr 3515 ft.

SEDGEWICK COUNTY—Marland & Amerada's Sensroth 1, nwc 25-28-4w, dr 1500 ft. O. P. Fleeger's Ottaway 1, c sw sw nw 16-28-2w, rig. Kellar & Lewis Buckles 1, nw se 3-28-1w, fsh 975 ft. Kyle et al's Pinney 1, c sw nw se 29-28-1w, spudded and sd. La

Font et al's Carlton Bros. 1, c se se sw 24-28-1e, sd 1685 ft.

KIOWA COUNTY — British American's Woodward 1, nec 35-27-17w, dr 4387 ft.

KINGMAN COUNTY—White Eagle's Lorens 1, c ne sw se 25-27-5w, rog.

SEDGEWICK COUNTY—Miller & Wentz's Shaeffer 1, nw ne 9-27-2w, hfw, Viola lime 4012-18 ft, dry and abn. Hammond & Stout's Roeder 1, sw nw 23-27-2w, dr 4040 ft, top Viola 4028 ft. C. B. Davis' Kinkead 1, nec 14-27-1e, dr 2360 ft. Lario's Calkins 1, sw se 7-27-2e, sd 2965 ft. E. W. Marland's Huggins 1, c se nw sw 30-27-2e, dr 2320 ft.

BUTLER COUNTY—Alladdin's Bronsenger 1, ne se 24-27-3e, pumped 145 bbls first 24 hrs.

GREENWOOD COUNTY—F. Konkay et al's Rock 1, ne nw ne 7-27-12e, spudded and sd.

RENO COUNTY—Wilson et al's McPheeters 1, c s½ nw 22-26-8w, rig. Austin Drlg. Co.'s Strickey 1, swc nw 12-26-5w, dr 3354 ft.

SEDGEWICK COUNTY — Washabaugh's Harrison 1, c nw ne ne 3-26-2w, dr 2680 ft, hfw 2189-92 ft. Boyle et al's Sandusky 1, c nw ne se 34-26-1w, dr 1590 ft. Burnett's Davidson 1, c nw nw sw 27-26-1e, sd 2668 ft. Twist et al's Armstrong 1, ne nw 28-26-1e, spudded and sd.

BUTLER COUNTY — Arkansas Fuel's Campbell 1, sec 9-28-3e, dr 1890 ft. Lario's Gordon 1, nwc 15-26-3e, dr 2105 ft. Sinclair's Johnson 1, nec 16-26-3e, 10-inch cas 1279 ft.

SEDGEWICK COUNTY — Deering-Marshall's Dick 1, c sw 4-25-1w, dr 3070 ft. Twist et al's Joseph 1, 4-25-1w, sd 1980 ft.

BUTLER COUNTY—White Eagle's Bacholder 1, sw c 17-25-3e, dr 2790 ft, top chat 2775 ft. Travis et al's Harrison 1, sec 21-25-3e, dr 1750 ft. Millmack et al's Clearwater 1, swc 33-25-3e, dr 1000 ft.

GREENWOOD COUNTY—Ward-McGinnis' Anderson 1, ne nw sw 13-25-10e, ur 8-inch cas 1400 ft.

RENO COUNTY—Skelly, Birkett 1, ne sw 30-24-7w, dr 3065 ft.

HARVEY COUNTY — Independent & Reserve's Moulds 1, c ne 7-24-1w, casing trouble 2600 ft. Jolly & Ogg's Randall 1, nec 11-24-1w, sd 3444 ft, base lime 3388 ft. Payne et al's Ady 1, ne nw se 16-24-1e, sd 2155 ft.

BUTLER COUNTY — Crawford et al's Thompson 1, nw sw 2-24-3e, td 2569 ft, chat 2530-34 ft, 300 bbls oil.

HARVEY COUNTY—Joe Liggett's Regier 1, c se nw se 2-23-3w, ru. Rosenthal et al's Ingall's 1, c nw sw 24-33-3w, dr 3605 ft. McCulloch's Prouty 1, nw sw 3-23-1w, sd 2020 ft. Jolly & Ogg's Hupp 1, se ne 22-23-1w, sd 3220 ft. Margaret Gay Oil Co.'s Grouse 1, nw ne nw 29-33-1w, sd 3012 ft.

HODGEMAN COUNTY — Phillips' Houseman 1, c nw ne 30-22-22w, dr 1600 ft.

RENO COUNTY—Witt et al's Olsen 1, se nw 14-22-6w, rig.

HARVEY COUNTY — Roth & Faurot's Bombrowsky 1, nwc 26-22-1w, sd 3040 ft.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel ne ne 31-21-16w, sd 1560 ft.

McPHERSON COUNTY — Ted Washabaugh's Vosshell 1, ne ne 9-21-3w, sd 3302 ft. Helmerich & Payne's Klassin 1, se ne ne 14-11-1w, sd 2390 ft.

MARION COUNTY—Holworth et al's Skiles 1, se nw nw, 30-21-3e, top lime 3083 ft, hfw, sd 3198 ft.

LYONS COUNTY—Holworth et al's Martindale 1, c nw ne ne 27-21-11e, 8-in cas 1606 ft. Gordan & Stat's Murphy 1, nw ne 32-21-11e, 8-in cas 1625 ft.

RICE COUNTY—Slick, Higgins & Steinbuble, Shurr 1, ne sw 21-20-10w, pulled big pipe, sub 90 bbls. Derby's Johnson 1, c nw ne se 24-20-6w, dr 1055 ft.

McPHERSON COUNTY—Mid Kansas Kuns 1, c se sw 11-20-5w, dr 800 ft. Slick-Pryor & Lockhart, Gratten 1, c ne nw nw 34-20-3w, fsh 2150 ft. Lario's Diener 1, se sw 10-20-1w, dr 550 ft. Tatlock et al's Meyer 1, c sw sw ne 32-20-1w, sd 3512 ft, dry and abn.

MARION COUNTY—Empire's Reising 1, ne nw nw 34-20-2e, ru.

RUSH COUNTY—Danciger O. & R. Co.'s Pinonka 1, c ne sw ne 17-19-17w, dr 3785 ft.

RICE COUNTY — Allison & Fitzwilliams' Poland 1, ne sw ne 36-19-8w, cellar. Millmack's Cain 1, se 29-19-7w, spudded and sd.

McPHERSON COUNTY — Perry et al's Wade 1, c se 20-19-4w, rig. McPherson's Chindberg 1, c nw nw 18-19-2w, running 6-inch cas, td 3045 ft, to deepen.

MARION COUNTY—Davis et al's Bartel 1, se ne 1-19-1e, spudded.

LANE COUNTY—Robinson et al's Dickerson 1, swc nw se 11-18-27w, 8-inch cas 2625 ft.

NESS COUNTY—E. W. Marland's Moses 1, ne se 7-18-25w, dr 3500 ft.

RUSH COUNTY—Sinclair's Seur 1, c se nw nw 8-18-17w, hfw 3768-70 ft.

McPHERSON COUNTY—E. W. Marland's Swanson 1, c ne sw ne 36-18-4w, dr 2560 ft. McPherson County Gas Co.'s Rasmussen 1, swc 8-18-3w, dr 2600 ft. McPherson's Sorrenson 1, c sw 23-18-2w, rig.

MARION COUNTY—Shell's Scully 1, nw ne 34-18-3e, ur 6-inch cas 2640 ft.

RUSH COUNTY—Danciger's Swindt 1, c sw se sw 22-17-17w, fsh tools 3753 ft. Central Commercial's Brock 1, nec sw sw 12-17-16w, spudded and sd.

BARTON COUNTY—Slick et al's Sweeney 1, sw ne 23-17-11w, rog.

ELLSWORTH COUNTY—Tatlock et al's Sacken 1, c sw se 25-17-9w, dr 560 ft.

OSAGE COUNTY — Gobel & Bending's Bartlett 1, c sw sw 28-17-15e, dr 1215 ft.

ELLSWORTH COUNTY—Texas' Sherman 1, ne sw 16-17-18w, dr 2395 ft.

MARION COUNTY—White Eagle et al's Ucker 1, ne nw 24-17-2e, rog.

MORRIS COUNTY — American O. & R. Urie 1, sw nw 10-17-5e, rig.

LANE COUNTY — Blankenship Pet. Co.'s Shaeffer 1, nec ne 24-16-28w, spudded and sd.

McPHERSON COUNTY—Dixie's Thorstenberg 1, nw ne 10-18-5w, dr 700 ft.

DICKINSON COUNTY — Hiatt & Durham's Wendt 1, nwc 17-16-2e, rig. Prairie's Morgan 1, nwc 26-16-3e, dr 2930 ft green shale. Milmack et al's Biehler 1, sw ne 28-16-4e, sd 3001 ft, green shale.

TREGO COUNTY—Prairie's Hutina 1, c ne sw ne 29-15-21w, ru.

ELLIS COUNTY—Rush Oil Co.'s Gatewood 1, nw 4-15-20w, fsh 2555 ft. Finney & Weimer, Freeman 1, nw se se 24-15-20w, spudded and sd.

RUSSELL COUNTY — Empire-Prairie's Bocks 1, c se ne ne 23-15-14w, dr 925 ft.

ELLSWORTH COUNTY — Templeman's Lanbangagen 1, c sw 20-15-6w, dr 2535 ft.

SALINE COUNTY—Austin's Olsen 1, c nw sw se 10-15-4w, spudded and sd. Dixie's Muiri, csw se sw 6-15-2w, co, td 3126 ft, top Hunton 3110 ft.

DICKINSON COUNTY—Cress & Hawky's Menli 1, nec 12-15-2e, rig.

RUSSELL COUNTY — Allison & Fitzwilliams' Mahoney 1, nw se 5-14-12w, td 3381 ft, Gorham sand 3354-76 ft, hfw, dry and abn.

ELLIS COUNTY — Streeter & Stearns' Leiker 1, sw ne 26-13-20w, rig. Mid-West's Berens 36, se nw 12-13-16w, dr 450 ft.

SALINE COUNTY—Twin Mounds' Weis 1, cw½ ne nw 20-13-4w, dr 300 ft.

WALLACE COUNTY—Menton & Entyre's Parker 1, c se nw sw 8-12-41w, rig.

TREGO COUNTY—Phillips' Spitz 1, sec 24-12-25w, ru. Mid-Kansas' Ridgway 1, ne sw 28-12-21w, dr 1580 ft. Day's Guyler 1, c sw ne ne 36-12-21w, spudded and sd. Day's Unknown 1, c ne nw sw 2-11-21w, sd 2910 ft.

ELLIS COUNTY—Byren's et al's Fisher 1, nw se 4-11-20w, dr 450 ft.

CLAY COUNTY—Derby's Niemueller 1, c nw sw 9-10-3e, dr 565 ft.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nw sw sw 19-10-17e, ru and sd.

ROOKS COUNTY — Burford & Brimm's Toxa 1, ne sw se 22-9-17w, spudded and sd. Krueger et al's Steis 1, c nw se sw 12-9-16w, spudded and sd.

GRAHAM COUNTY—Gulf Coast's Johnson 1, swc sw se 27-8-15w, dr 4000 ft.

SHERMAN COUNTY—A. L. Hansen et al's Murray 1, ne se nw 22-7-40w, sd 3035 ft.

OSBORNE COUNTY—Phillips' Grieve 1, nw se ne 6-7-12w, dr 2265 ft.

RILEY COUNTY — Derby-Skow Bros.' Lundstrum 1, ne 32-7-5e, hfw, 2046-58 ft.

OSBORNE COUNTY—Trees' Payenter 1, c ne se se 22-6-15w, K. C. lime 3012 ft, dr 3368 ft. Mid-Kansas' Boyce 1, se nw 8-6-13w, dr 2150 ft.

RILEY COUNTY—Gray et al's Smith 1, ne se 30-6-6e, dr 1930 ft.

SMITH COUNTY—Phillips' Clydesvale 1, se nw 23-5-14w, ur 10-inch cas 2200 ft.

WASHINGTON COUNTY — McCool & Vicent's Linn 1, nw ne 27-4-3e, dr 2300 ft.

MARSHALL COUNTY — Irwin et al's Cooper 1, ne nw 10-3-7e, td 2240 ft, sd.

PHILLIPS COUNTY—Watsonian & British American's Weiman 1, c sw sw 34-2-19w, dr 3720 ft.

NORTH LOUISIANA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CADDO PARISH—		
Sam Gold et al, Hunter 2, 17-19-14	*	2450
Palmer Corp., Hunter 2, 8-19-14....	40	2411
Ray-Dawes Drilling Co., Hunter 2, 9-19-14 1500		2423
Gulf Ref. Co., Hunter 2, 17-19-14..	17	2408
Standard Oil Co. of La., Oden 3, 18-19-14	57	2420
DE SOTO PARISH—		
Benedum & Trees' State 2, 22-14-12	*	3690
WEBSTER PARISH—		
Magnolia Pet. Co., Sallie Coyle 1, 2-22-11, No. 33	179	2695

BIENVILLE PARISH—W. G. Gray, Tr.'s Snyder 1, 15-16-6w, dr brown shale 3260 ft.

BOSSIER PARISH—Corbett et al's Murff 1, 16-17-11, sd 990 ft. Nell & Lanier's Biedenharn 1, 23-21-14, sd 790 ft. Triangle Drilling Co.'s Thigpen-Herold 3, 11-17-12, sd 900 ft. Palmer Corp.'s Roos 1, 23-17-12, dr shale 1586 ft. Walker et al's Antrim 1, 28-22-13, sd wo 3017 ft. John F. Woodman's Bolinger 1, 9-22-11, sd wo 3532 ft. Deleware La. Dev. Co.'s Bolinger 4, 38-23-11, claim 1500 ft oil in hole, wosr, td 3170 ft. Frank Estes' Pardee 2, 3-22-11, rig up.

CADDO PARISH—Dixie Oil Co.'s Robertshaw 92, 13-21-15, bailing to test, td 6351 ft. Sam Gold et al's Hunter 2, 17-19-14, dry abn td 2450 ft. Hunter 3, 17-19-14, dk. Fred McWilliams' Oden 1, 20-19-14, rig up. S. T. Onyett, Tr.'s Dixon 1, 10-19-14, dr 1320 ft. I. N. Pharris, Tr.'s, Oden 1, 19-19-14, dr 50 ft. Ohio Oil Co.'s Hunter 3, 17-19-14, wtg on cement, td 2415 ft. Simplex Oil Co.'s Dickson 1, 33-20-14, tested dry 2468 ft, sd wo 2702 ft. Ohio Oil Co.'s Hunter 4, 17-19-14, dk. Hunter 5, 17-19-14, coring shale and lime 2492 ft. Standard Oil Co. of La.'s Henderson 3, 7-19-14, dk. Hunter 3, 17-19-14, set 6-inch cas 2360 ft, td 2412 ft; Hunter 8, 17-19-14, lcn; Oden 3, 18-19-14, flowing 57 bbls through 2-inch tubing, 8 ft brown sand, td 2420 ft. A. H. Tarver's Glassell-Dickson 1, 31-20-14, cemtd 6-inch cas 2130 ft, tested sw 2450 ft, arr deepen, td 2450 ft. Sam Gold et al's Hunter 4, 17-19-14, lcn. Haynes Bros.' Oden 1, 19-19-14, tested dry, small show oil 2425 ft. Ray Dawes Drilling Co.'s Hunter 2, 9-19-14, flowing 1500 bbls oil, 11 ft br sand, td 2423 ft. Palmer Corp.'s Hunter 2, 8-19-14, pumping 40 bbls oil, td 2411 ft. Lide et al's Levee Bd. 1, 24-19-14, rig up; Hunter 1, 22-19-14, sd repr boiler 1872 ft. D. C. R. Oil Co.'s & Crystal O. R. Co.'s Oden 2, 20-19-14, tested 5 joints mud some oil 2442 ft, sd 2550 ft. Gulf Ref. Co.'s Hunter 2, 17-19-14, pump 17 bbls oil, td 2408 ft; Ode 5, 18-19-14, sd 2454 ft; Hunter 3, 17-19-14, lcn. Standard Oil Co. of La.'s School Bd. 1, 16-19-14, dk. pat.

CLAIBORNE PARISH—O. G. Collins et al's Mosely 1, 29-20-5w, sd drill water well, td 1954 ft. El Dorado Chief Oil Co.'s Dance 1, 27-20-7w, sd 1115 ft.

DE SOTO PARISH—P. J. Becker's Tull 1, 23-12-13, fsh ds 2475 ft. Benedum & Trees' State 2, 22-14-12, sw abn, td 3690 ft. Fair et al's Hamilton 1, 1-12-13, cemtd 6-inch cas 2668 ft, tested est 3 mil ft gas and bridged; bridge cleaned, well dead, td 2790 ft. L. M. Moffit, Tr.'s Boatright 1, 3-10-13, ta 3078 ft. Longstreet Synd.'s Ramsey 1, 33-13-16, TA 2802 ft. R. O. Roy's Rogers 1, 13-13-14, sd 2730 ft.

FRANKLIN PARISH—Davis et al's Moore 1, 12-11-6e, sd 1430 ft.

JACKSON PARISH—Geo. O. Baird's Tremont Lbr. Co. 1, 24-16-1w, coring sandy shale 3460 ft.

LA SALLE PARISH—Tunica Pet. Co.'s L. & A. 49, 17-17-2e, topped sand 816 ft, arr test, td 822 ft; L. & A. 50, 16-7-2e, dk; L. & A. 51, 16-7-2e, rig up.

MOREHOUSE PARISH — Rainbow Oil Co.'s Louisville Cooperage 1, 33-22-8e, dk. J. P. White's Chess Wymond 1, 32-19-6e, tested sw 2777 ft, arr to deepen.

NATCHITOCHES PARISH — S. D. McDaniels' Clark-Morse 1, 23-5-6w, sd 2536 ft. Robeline O&G Co.'s Cassady 1, 7-8-9w, ds stuck 3230 ft. Nichols & Wilder's Clark 1, 10-10-8w, rig up.

OUACHITA PARISH—Haynes Bros.' Dixie Lbr. Co. 1, 54-17-3e, lcn. Ouachita Nat. Gas Co.'s D'Arbonne B-2, 25-19-2e, ds stuck 2648

ft, repr dk, td 3349 ft. Phillips et al's School Fee 1, 16-16-4e, dr 4325 ft.

RAPIDES PARISH — G. E. Silbertson's Willemach 3, 13-5n-4w, TA 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, TA 3850 ft. Ayers Bros. et al's Wicklipp 1, 9-5n-2w, lcn.

RED RIVER PARISH — W. D. Ball's Krumbholz 1, 32-14-10, rig up. Benedum & Trees' Franklin 1, 29-11-9, cemtd bottom hole td 2120 ft. D. H. Reddick's Johnson 1, 17-12-10, rig up.

RICHLAND PARISH—Austin & McDonald's Millsaps 1, 17-17-6e, tested 200,000 ft gas, wo 2510 ft; Millsaps 2, 17-17-6e, sd wo 2697 ft; Millsaps 3, 16-17-6e, dr 1970 ft; Millsaps 4, 16-17-6e, lcn. Hope Prod. Co.'s Eubanks 1, 26-17-16e, sr to bottom 2919 ft, sr. Humble's Binion-Sartor 1, 22-17-6e, tested dry 2459 ft, arr deepen. Palmer Corp.'s Eubanks 1, 26-17-6e, dk. La. Pet. Co. 1, 22-17-6e, cleaning out 2475 ft, td 2995 ft; Miles 2, 12-17-6e, dr gmbo and boulders 2245 ft. Southern Carbon Co.'s Binion-Sartor 1, 21-17-6e, fsh ds 2252 ft. Northern La. Nat. Gas Co.'s Boykin 4 (relief well 3), 20-17-6e, waiting on blowout preventer 288 ft. Hope Prod. Co.'s Boykin 1, 21-17-6e, lcn.

SABINE PARISH—R. L. Gay Tr.'s & H. D. Easton's Bowman-Hicks 4, 14-7-14, dr tough gumbo 1432 ft. Long-Bell Lbr. Co. 1, 26-8-14, dr shale strks lime 3126 ft. Sabine Lbr. Co. 2, 23-7-14, sd to install new engine, td 2813 ft; Bowman-Hicks A-1, 34-8-12, rig up. A. H. Tarver's Long-Bell Lbr. Co. 1, 29-8-13, sd wo 3535 ft. Long-Bell Lbr. Co. 2, 18-8-13, dr 300 ft.

UNION PARISH—G. E. Carmatte's Tugwell 2, 21-22-1e, sd wo 2450 ft.

WEBSTER PARISH—F. M. Fuller's Monzingo 1, 27-18-8, drk. Donohue Oil Co.'s Roseberry 1, 33-23-9, sd 1400 ft fluid in hole, 5 1, ft sand, wosr, td 2767 ft. P. Hudson's Slack 1, 1-22-11, wosr, td 2747 ft. Kemp et al's Campbell 1, 11-22-10, sd 2653 ft. Magnolia Pet. Co.'s Sallie Coyle 1, 2-22-11, pumping 179 bbls oil 80 bbls sw 3 ft sand, td 2695 ft. McCook & Hibbler 1, 22-21-10, coring red sandy shale 6733 ft; Roseberry 1, 15-23-9, wosr, td 2770 ft; Kight 1, 33-23-9, rig up.

WEST CARROLL PARISH—W. F. Hyde's Chickasaw Imp. Co. 1, 24-23-11e, dr 100 ft.

EAST TEXAS

BOWIE COUNTY — Hooks O&G Co.'s Rosenberg 1, King sur, TA 3086 ft.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 1920 ft.

HARRISON COUNTY—McRitchie et al's Dean 1, Craft sur, washing to bottom 2285 ft.

RED RIVER COUNTY—D. M. Buffington's Hoosier 1, Hughart sur, sd 1863 ft. Shad Harper's Garland 1, Wagley sur, sd 1440 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, sd 1862 ft.

SHELBY COUNTY—Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3004 ft. Gulf Ref. Co.'s Caraway 1, Patterson sur, dr grey lime and blue shale 6132 ft.

SOUTH LOUISIANA

Completions

Company, Well and Location		Initial Production Bbls.	Depth
ASCENSION PARISH—			
Big Dome Drlg. Co. and J. S. Kimbrough, Rearwood 1	*	4882	
Pickard & Geisman, Desire Breaux 1	*	3780	

ACADIA PARISH — Yount-Lee Oil Co.'s Houssiere-Latrielle 7, Evangeline, dr 5806 ft sandy shale. Crowley O. & M. Co. 4, Evangeline, sd 7563 ft; Crowley O. & M. Co. 5, Evangeline, lcn.

ASCENSION PARISH—Gulf's United Lands Co. 15, Sorrento, dr 4785 ft sand. Triumph Oil Corp.'s Lacey et al 2, 3 mi se Sorrento townsite, sd 3327 ft. Big Dome Drlg. Co. and J. S. Kimbrough's Rearwood 1, Darrow, abn 4880 ft. Pickard & Geisman's Desire Breaux 1, Sec. 32-10s-2e, abn 3780 ft.

CALCASIEU PARISH—J. O. Davis' Mimms 1, Lake Charles, sd 5600 ft. Wilfred Lahay's James 2, sd 3375 ft.

CAMERON PARISH—The Texas Co.'s Calcasieu Lake B-5, E. Hackberry, dr 4092 ft rock; Calcasieu Lake A-4, piling completed for dk. Pure Oil Co.'s Yount-Lee 7, Sweet Lake, dr 6255 ft sand and shale; Yount-Lee 8, Sweet Lake, sd 5657 ft. Shell's Watkins 11, Black Bayou, dr 1590 ft sandy shale; Watkins 12, Black Bayou, dr 2470 ft shale and lime; Marceaux 1, Mallard Bay, dk.

IBERIA PARISH—Gulf's State Z-10, Loreauville, dr 2005 ft gbo. The Texas Co.'s Vermilion Bay A-4, dk. Jefferson Lake Oil Co.'s Lake Peigneur 2, dk.

IBERVILLE PARISH — Shell's Wilbert 3, White Castle, dr 5977 ft sand and shale. Standard of La.'s Wilbert 3, Bayou Blue, dr 1500 ft gbo; Schwing 2, Bayou Blue, dr 2310 ft shale; Schwing 3, Bayou Blue, capped piling.

JEFFERSON DAVIS PARISH—Set cas to test oil showing at 4324-36 ft.

LA FOURCHE PARISH—Gulf's Stark 14, Thibodaux, dr 1250 ft; Stark 18, Thibodaux, abn 1500 ft; Stark 23, Thibodaux, dr 1342 ft; Stark 21, dr 1170 ft shale; No. 24, lcn.

PLAQUEMINE PARISH—Gulf's Morris & Rose 1, Spanish Pass, dk. The Texas Co.'s Garden Island Bay 2, well bridged following gas blowout at 795 ft. Humble's Cockrell-Moran 1, Lake Grande Ecaille, dr 1672 ft gbo; Lake Washington 1, Lake Grand Ecaille dome, lcn.

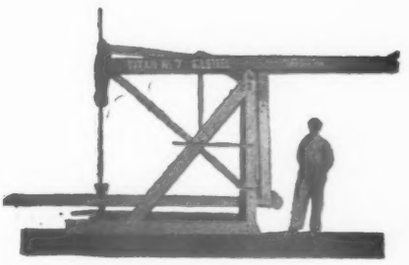
ST. MARTIN PARISH—The Texas Co.'s St. Martin Ld. Co. Fee 1, Hager dome, dr 4248 ft gbo; St. Martin Ld. Co. Fee 2, Hager dome, ru. Ohio Oil Co.'s Martin et al 3, Hager dome, dr 4496 ft hard sand.

ST. MARY PARISH—Freeport Sulphur Co.'s Belle Isle 1, abn 1855 ft; Belle Isle 2, abn 1315 ft; Belle Isle 3, ru.

ST. TAMMANY PARISH — St. Tammany Pet. Corp.'s Fritchie 2, dr 3030 ft gbo.

TANGIPAHOA PARISH—Joan Dev. Co.'s Lake Superior 1, dr 3100 ft gbo. Completion Oil Co.'s Amos Kent 1, dr 2540 ft gbo.

TERREBONNE PARISH—The Texas Co.'s Taylor Bayou B-1, dr 1787 ft gbo; Bay Coon Road B-2, dr 755 ft sandy shale; Bay Coon Road B-3, dk foundation built; Lake Pelto B-2, lcn; Lake Pelto B-3, lcn; La. Land & Explo. Co. A-2, lcn; Lake Barre A-2, dr 2560 ft gbo; Tambalier Bay A-2, lcn; Dog Lake Bayou B-1, dr 982 ft gbo; Dog Lake Bayou B-2, lcn.



O. K.

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SEE OUR EXHIBIT

INTERNATIONAL PETROLEUM EXPOSITION

TEXAS

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
REFUGIO COUNTY—		
Blanco Creek Oil Co., St. Johns 1, 6 mi n Refugio	*	3695
Ball et al, Terrell 1, 5 mi sw Refugio	*	3560
FORT BEND COUNTY—		
Humble, Miller 1, 3½ mi w and little s Rosenberg	*	5371
JEFFERSON COUNTY—		
J. W. Farhar, Rohwedder 1, 5 mi ne Beaumont	*	2965
Nederland O. & G. Co., Young 1, s Nederland	*	2520
MATAGORDA COUNTY—		
Crossland et al, Hawkins 1, Shepherds Mott	*	5260
ORANGE COUNTY—		
Veteran Oil Co., Reed 1, 2 mi se Orange	*	4542

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash dome, lcn.

CHAMBERS COUNTY — Pure Oil Co.'s Mayes 3, Lost Lake, dr 2775 ft sand and shale, oil show; Lost Lake 3, ru. Chicago Oil Corp.'s Lawrence 1, 10 mi s Barbers Hill, dr sand and shale 1185 ft. Layne et al's Fitzgerald 1, 1 mi s Barbers Hill, dr 2840 ft shale.

COLORADO COUNTY — Merrett et al's Zverck 1, 2 mi e Ellinger, sd 1010 ft. The Texas Co.'s Machemal 1, dr 1040 ft sand. Shell's Hennecke 2, Bernado, sd 565 ft. Rich Oil Corp.'s Von Rosenberg 2, 2½ mi w Alleyton, dr 2825 ft lime.

FAYETTE COUNTY—Kelley et al's Burke 1, 2 mi nw Flatonia, sd 500 ft. Moore et al's Kerr 1, Muldoon, sd 2485 ft. Magnolia's Gully 1, 4 mi n Fayetteville, dr 3745 ft shale. National Oil Co.'s Hunger 1, 8 mi sw La Grange, dr 1610 ft shale. Muldoon Oil Co.'s Kimper 1, Muldoon, sd 225 ft.

FORT BEND COUNTY—Humble's Miller 1, 3½ mi w Rosenberg, abn in hard shale at 5371 ft. Gulf's Trone 12, Long Point, dr 4255 ft sand and lime. Grayburg Oil Co.'s Ransom 1, s Richmond, dr 3475 ft sand and lime.

GOLIAD COUNTY—Humble's Miller 1, 4 mi n Goliad, dr 610 ft lime.

HARRIS COUNTY—Humble's Simms-Smith 75, Goose Creek, dr 5243 ft; Irvin 2, Mykawa, completed as a 50 million foot gas well at 4189 ft; Woodburn 1, 2 mi s Genoa, dr 4667 ft, small gas show reported at 4650 ft; Warren 6, Hockley, dr 2075 ft hard sand. York & Robertson, Garrett 1, 5 mi se Fauna, washing to bottom. Mrs. J. C. Baldwin's Kitzman 1, 2 mi n Cypress, sd 4055 ft. Rich et al's Highland Farms 1, Elena, dk.

JEFFERSON COUNTY — Deep Test Oil Corp.'s McFaddin 1, 1¼ mi e Spindle Top, sd 3965 ft. River Oil Co.'s Ship Channel Ld. Co. 1, 2 mi se Beaumont, dr 2840 ft water sand. Gulf's Burrell 3, Fannett, sdtr 2000 ft, td 2511 ft; Junker 1, dr 1375 ft gbo; Thomas 12, lcn. The Texas Co.'s Burrell 1, Fannett, ru. Westbury Oil Co.'s West 3, dr 2681 ft gbo. Bleakie Oil Co.'s Tollivar 1, 2¼ mi nw Voth, sd 2750 ft. Vacuum Oil Co.'s Broussard 1, 9 mi se Fannett, dr 2969 ft red shale. Shell's Heisig 1, 2 mi n Hampshire, dr 6510 ft shale and lime. Nederland O. & G. Co.'s Young 1, s Nederland, abn 2520 ft. The Texas Co.'s Pipkin 2, Big Hill, dr 2490 ft gbo. The Texas Co. and Houston Oil Co.'s Fitzhugh 1, Big Hill, bldg dk.

LIBERTY COUNTY—Humble's Sterling 6, Moss Bluff, ru. Pure's Liberty Investment 1, Moss Bluff, dr 4182 ft shale. Gulf's Boyt 2, Hankamer, tested salt water with little oil at Harrison Oil Co.'s Quintette 4, N. Dayton, Oil Co.'s Bladerack 1, N. Dayton, sd 4625 ft. blowing gas with spray oil at 4120 ft. Union Explo. Co.'s Esperson 3, 4 mi s Stilson, preparing to reset screen at 1817-32 ft; Esperson 4 and Vajdak 1, lcns.

MATAGORDA COUNTY—Crossland et al's Hawkins 1, Shepherds Mott, abn 5260 ft.

ORANGE COUNTY—The Texas Co.'s Stark 1, Pt. Neches, dr 2034 ft sandy shale; Polk 1, dk. Gulf's J. H. Starks 1, Pt. Neches, lcn; W. H. Starks 1, lcn. Galperin et al's Mansfield 1, Mansfield Ferry, lcn. Veteran Oil Co.'s Reed 1, 2 mi se Orange field, abn 4542 ft.

VICTORIA COUNTY—Humble's Welder 1, 3 mi se Nursery, fsh 4091 ft.

WALLER COUNTY — Kirby Pet. Co.'s Vaughan 1, San Felipe, pulling screen, td 3005 ft.

WASHINGTON COUNTY—Fuchs et al's Torn 1, 14 mi sw Brenham, dr 1235 ft shale. Brains et al's L. S. Smith 1, 4½ mi ne Gay Hill, dr 1159 ft gbo. Dekle et al's Calhoun 1, 4 mi e Quarry, cd 1060 ft. W. Gahee et al's Davis 1, sd 40 ft.

WHARTON COUNTY—Hearte Oil Co.'s Brown 1, 5 mi s El Campo, sd 2814 ft.

SOUTHWEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BASTROP COUNTY—		
Livingston et al, M. M. McCall 1, wo, 1 mi s Bastrop	*	2910
CALDWELL COUNTY—		
Harper et al, S. L. Miller 1, ¾ mi w Lytton Springs	*	1642
Harsh et al, Olindorf 1, 5 mi nw Lockhart	*	1414
DUVAL COUNTY—		
The Texas Co., Hyatt 1, blk 25, Sweeden Garden subdiv.	*	3204
GAUDALUPE COUNTY—		
Stroube Bros., LeRoy Denman 1, Darst Creek area	*	2703

BASTROP COUNTY — Livingston et al's McCall 1, 1 mi s Bastrop, abn at 2910 ft. Howell et al's Weckham 1, 2 mi s Paige, sd 1700 ft. Broadnaux Oil Co.'s Rundas 1, 7 mi s Smithville, dr 1900 ft shale. Harper et al's Mitchell 1, Bastrop, sd. Pacific Oil Co.'s Spooner 1, 4 mi ne Cedar Creek, dr 2420 ft chalk; Donnell 1, 10 mi w Bastrop, dr 2340 ft chalk. T. C. Hadley's Kiel 1, 3 mi s Paige, ru.

BEE COUNTY—Mission Drlg. Co.'s Ray 3, Pettus, prep to set screen at 4050 ft.

BEXAR COUNTY—Swift & Fisher's Beck 1 (Yelvington tract), 10 mi e of San Antonio, sp.

BROOKS COUNTY—Amos Dinn's Garcia 2, sd at 1200 ft. Houston Oil Co.'s Lassiter 1, sd at 3500 ft. G. W. French's Allen 5, lcn; Allen 6, prep to sp.

CALDWELL COUNTY — Harper et al's Miller 2, ¾ mi w Lytton Springs, abn at 1642 ft. Harper et al's Thomas 1, ½ mi e Lockhart, lcn. The Texas Co.'s Cude 1, s Dale, lcn. Radcliff et al's Joe Cardwell 1, 4 mi n Lockhart, ru. Germany et al's Douchy 2, ¼ mi e Fentress, dr 1865 ft lime. Callahan et al's Ellison 1, 3 mi n Luling, dr 2542 ft chalk. Harsh et al's Olindorf 1, 5 mi nw Lockhart, abn 1414 ft Edwards.

DE WITT COUNTY—McIntyre's von Roeder 1, 5 mi sw Yorktown, sd 560 ft.

DUVAL COUNTY—The Texas Co.'s Hyatt 1, Sweeden Gardens subdiv, abn at 3204 ft. E. H. Buckner's Peters 1, sec 161, ru. Houston Oil Co.'s Peters 1, sec 161, ru. Humble's Koehler 33, set surface cas at 313 ft; No. 34, set cas at 325 ft. Magnolia's Hahl 7-B, dr 5125 ft; Hahl 6, set cas at 2319 ft; Hahl 7, dk; Corbett 1, dr at 3935 ft. National Oil Co.'s Ball 2, dk. Chas. E. Long's Hahl 1, ru. S. & O.'s Bowe 1, testing at 2306 ft, cas set at 2295 ft. Sun Oil Co.'s Lopez 2, dr 2660 ft. Suladie Peters & Jack's Walsh 1, lcn. The Texas Co.'s Hyatt 1, reported abn at 3204 ft.

GONZALES COUNTY—Ft. Bend Oil Co.'s Hamms 1, sd at 2675 ft in sand. Green et al's Dix 1, sd at 1425 ft. Hoffman et al's Burrer 1, dr 500 ft in shale.

GAUDALUPE COUNTY — Empire Oil & Gas Co.'s No. 1, lcn. Cranfill-Reynolds' L. G. Denman 1, sd at 2100 ft. Grayburg Oil Co.'s Wells 2, lcn. Gulf's Searcy Anderson 1, Darst Creek, lcn; Tadlock 1, lcn. Humble's D. D. Baker 1, Darst Creek, lcn; D. D. Baker 2, lcn; Yates-Wilson 1, lcn. Miles and Adams' Zaboroski 1, sd 963 ft. Bob Penn No. 1 (in Gaudalupe river bed), lcn; Johnnie Manford 1, 3 mi sw Luling, cas being set at 2418 ft over showing oil and gas in chalk. Sinclair Oil Co.'s Towes 1, 1 mi n New Berlin, dr 1785 ft in chalk. The Texas Co.'s Dallas-Wilson 2, Darst Creek; Lemmy Anderson 2, sd at 660 ft; Lemmy Anderson 3, sd; Lemmy Anderson 4, lcn. Shell's Gaudalupe River 1, Darst Creek, ru. Louis F. Burgess' E. Lannon 1, 5 mi se Seguin, sd 2010 ft.

GOLIAD COUNTY—Humble's Miller 1, 4 mi n of Goliad, dr 500 ft.

KLEBERG COUNTY—Humble Oil & Refining Co.'s Flato 4, sd at 6006 ft.

JIM HOGG COUNTY—Alworth, Stevens & Hild's Garza 1, dr 1150 ft; Garcia 14, sd at 1900 ft. Deep Rock Oil Co.'s Kelsey 1, dr 1331 ft. Geo. S. Marshall's Holbein 4, dr; Holbein 5, lcn. Magnolia Pet. Co.'s F. G. Martinez 1, sec 6, cas set at 1914 ft, prep to dr in. Randado Oil Co.'s Palacios 35, sd at 100 ft. W. R. Shankle Holbein 2, prep to sp.

JIM WELLS COUNTY — Magnolia Pet. Co.'s Chas. Cook 1, dr 1034 ft; Martinez 1, prod 30 million cubic ft gas at 1928 ft.

LA SALLE COUNTY—J. G. Nix's Coleman 1, sec 66, sd at 500 ft.

MAVERICK COUNTY—Rycade Oil Corp.'s Chittim 3, 20 mi e Eagle Pass, dr 5380 ft blue lime; Chittim 4, 20 mi e Eagle Pass, dr 5280 ft blue lime; Sullivan 4, 20 mi e Eagle Pass, dr County Land 1, 15 mi e Eagle Pass, dr 1505 4750 ft blue lime. The Texas Co.'s Bandera ft Eagle Ford shale, oil showing.

NUECES COUNTY—Trinity Drillers et al's Thompkins 1, surface cas set, dr at 450 ft.

SAN PATRICIO COUNTY—Houston Gulf Gas Co.'s Welder 3, dr 5052 ft sandy shale.

STARR COUNTY—Smith-Adams' G. B. Welch 1, sd at 531 ft. Milam Drlg. Co.'s R. Allen 5, dr. The Texas Co.'s Guerra 4, share 305-D, porcion 67, ru. U. S. Oil & Gas Co.'s Kelsey 1, porcion 76, sd at 80 ft.

WEBB COUNTY—Barnsely's Foster 6, dr 1890 ft; Webster 8, dr 1900 ft. Carolina-Texas Oil & Gas Co.'s Benavides 8, tested oil and gas at 2124-35 ft, now dr at 2200 ft. Carson's Usher 2, Benavides sec 1613, dr 1920 ft. Crown Central Pet. Co.'s E. Garcia 1, reported abn at 1625 ft. O. W. Killam's Bruni 11, reported abn at 2625 ft; Billings 7, dr 228 ft; Bruni 15, lcn; Bruni 14, sp. Magnolia-Houston Oil Co.'s Benavides 2, lcn Magnolia Pet. Co.'s Valdez 1, dk; C. Benavides 1, set surface cas at 77 ft; M. Benavides 1, dr 4315 ft. John J. O'Hern's Benavides 2, prod 47 million cubic ft gas at 2379 ft, 650 lbs rock pressure; Valdez 1, lcn. Trapshooter Riley's Benavides 2, dr 2860 ft. Southern Oil Co.'s King-Harper 1, small gasser, spraying oil at 1767 ft. W. R. Shankle's Holbein 2, lcn.

ZAPATA COUNTY — Blair and Acklen's Trevino 1, cored oil sand at 385 ft, settting cas. Buck and Coursey's Garza 1, sd at 1474 ft. Hill et al's Vela 1, prep to sp. Killam-Duggan's Cuellar 6, lcn; Cuellar 3, dr 1240 ft. O. W. Killam's Cuellar 15, dr 740 ft. Magnolia Pet. Co.'s F. G. Martinez 1, sec 6, dr 1737 ft. Marts and Beavens' Trevino 1, dr 1278 ft. H. Muckleroy, Jr.'s Trevino 3, cored oil sand at 1293-97 ft. National Oil Co.'s Adams 1, dr 470 ft. South Texas. Prod. Co.'s Joe Jennings 5, dr 2422 ft; Roy Jennings 1, dr 3155 ft.

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CONCHO COUNTY—		
Lloyd Jones et al's Jones 1	*	2700
PECOS COUNTY—		
Taylor-Link Oil Co., University 2	1536	1626
RUNNELS COUNTY—		
Independent O&G Co., Rollowitz 1	*	4291

ANDREWS COUNTY—Deep Rock Oil Co. et al's C. E. Ogden 1, rig.

BORDEN COUNTY—Louisiana O&R Co.'s York 1, lcn abn; W. L. Miller 1, rig. W. A. Moncrief et al's S. I. Munger 1, dr 410 ft. Teas-Wheeler et al's Long 1, elev 2516 ft, top salt 1030 ft, dr 2130 ft.

BREWSTER COUNTY—Ed. W. Bateman & Co.'s Nevill 1-A, dr 1680 ft. Brewster Oil Co.'s Fee 1, fsh 1930 ft. E. L. Chapman et al's Skinner 2, 430 ft td, bad hole. J. P. Johnson & Bert Weekly's Jackson-Harmon 1, elev 3972 ft, dr 2745 ft.

COKE COUNTY—Mid-Kansas O&G Co.'s Lackey 1, elev 2152 ft, dr 3995 ft.

CONCHO COUNTY—Lloyd Jones et al's Jones 1, dry and abn at 1977 ft, td 2700 ft, plug back to 1975 and shot with 80 qts.

CRANE COUNTY—Gulf Prod. Co.'s Waddell 7, pb from 3610 to 3567 to re-set tubing; Waddell 8, dr 830 ft.

CROCKETT COUNTY — California Co.'s Powell 3, dk. W. W. Donnelly & J. D. Young's Powell-Shannon 1, elev 2661 ft, top salt 1125 ft, dr 2210 ft. W. A. Moncrief et al's Todd 1, Sec. 29, rig. Taylor-Link Oil Co.'s Powell 3, elev 2772 ft, top salt 1040 ft, fsh 2282 ft.

CULBERSON COUNTY—Deep Rock Oil Co. & Grisham-Hunter Corp.'s Kloh 3, set 8¼ at 1348 ft, no shut-off, dr 1510 ft. Hickey et al's Finley 1, elev 3916 ft, sd 2275 ft. Scott & Dittman's Miller 1, sd for cas 2885 ft. West

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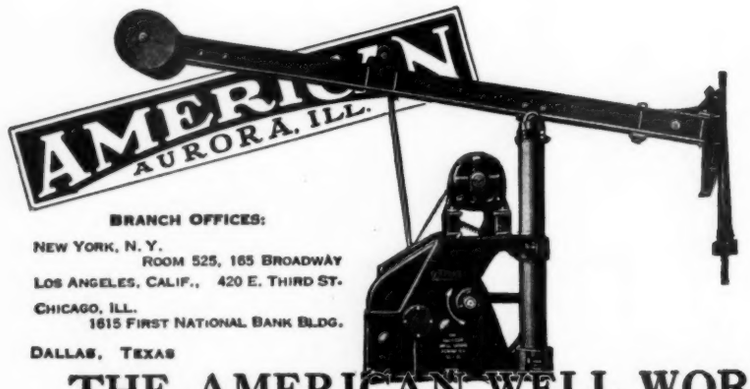

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Coast Oil & Explo. Co.'s McGregor 1, dr out cement.

ECTOR COUNTY—Penn Oil Co. et al's Kloh 1, dr 815 ft.

EL PASO COUNTY—Lane-Tex Oil Co.'s Malone 1, 10-inch cas froze at 1107 ft, sd.

FISHER COUNTY — Cranfill-Reynolds & Sun Oil Co.'s Flanigan 1, top lime 3098 ft, dr 3119 ft. Culbertson Bros. & Mesa Oil Co.'s Griffin 1, coring 3160 ft. Magnolia Petroleum Co.'s Alice Lee 1, dr 2065 ft. Mid-Kansas-Phillips Pet. Co.'s Stephenson 1-A, dr 1940 ft. Mid-West Explo. Co.'s Steel 1, dr 410 ft. Henry Riley et al's Veatch 1, running 12-inch casing at 1140 ft. Roesser-Pendleton & Amerada's Haught 1-A, swab 5 bbls per hour at 3123 ft. Roesser-Pendleton & Landreth Prod. Corp.'s Johnson 1, dr 2455 ft The Texas Co's Stephens 1-B dr 1845 ft

GARZA COUNTY — Emerald Oil Co's Bardsley 1, co after second shot of 60 qts, td 2551 ft Gulf Prod Co's Street 1-D, lime at 3955 ft, will dr deeper Paul Steed et al's J. M. Boren 1, dr 910 ft. Thompson et al's Tuffing 1, sd 560 ft.

GLASSCOCK COUNTY — California Co.'s Currie 3, set conductor 22½ ft. Gibson-Johnson et al's Dean 1, dr 3550 ft. Houston Oil Co. et al's McDowell 1, sd 2603 ft. Kirby Pet. Co. et al's Phillips 1, co to run 6-inch cas, td 2268 ft. Landreth Prod. Corp. and Tidal Oil Co.'s Houston 1, dk. Lion O&R Co.'s Coffee 1, TP 2152, SO 2120 ft, td 2185, hole full of oil. Mid-West Explo. Co.'s Edwards 1, td 2538 ft, running cas. Penn Oil Co. et al's Shaffer 1, dr 2190 ft. Schermerhorn Oil Co.'s Phillips 1, spudded. Sun Oil Co.'s Phillips 1, dr 400 ft; Phillips 2, lcn. Texas State Oil Co.'s Edwards 1, fsh 2461 ft. World Oil Co.'s McDowell 2-C, rig.

TOM GREEN COUNTY—Fitzgerald et al's Bennett 1, sd 1955 ft.

HOCKLEY COUNTY — World Oil Co.'s Elwood 1, sd 3224 ft.

HOWARD COUNTY — Merriweather Oil Co.'s Eva Smith 1, sd 430 ft.

HUDSPETH COUNTY — California Co.'s University 1, dr 1640 ft. Geo. E. Richardson et al's Thaxton 1, dr water well. Western States Oil Co.'s Gardener-Mosely 1, sd 3155 ft; Moore 1, fsh 2760 ft.

IRION COUNTY—J. B. Crawford et al's Nutt 1, sd 770 ft. Carl Cromwell & Fuhrman Pet. Co.'s Fayette Tankersley 1, rig. Kingwood Oil Co. et al's Sugg 1, sd 7667 ft. Pecos Valley Oil Co.'s Stock 2, fsh 1280 ft. F. E. Webb & Banner Oil Co.'s Nutt 2, sd 1360 ft, 1000 ft oil in hole, filled 200 ft in 24 hrs.

JONES COUNTY — J. H. Adsit et al's Swenson 1, spudded new lcn after skidding 50 ft east. W. G. Clark et al's Miller 1, sd 2480 ft; Newman 1, OS 2525-36 ft, TL 2497 ft, swab 20 bbls oil 2/3 water. Mid-Texas O&G Co.'s King 1, fsh 870 ft. Sedgwick O&G Co.'s Brown 1, spudded. F. E. Shaheen et al's King 1, dr 450 ft.

LOVING COUNTY—Humble Oil & Ref. Co.'s Kloh 1, rig. Independent O&G Co.'s Wheat 1, lcn. Lockhart & Co.'s Hazell 1, fsh 3980 ft.

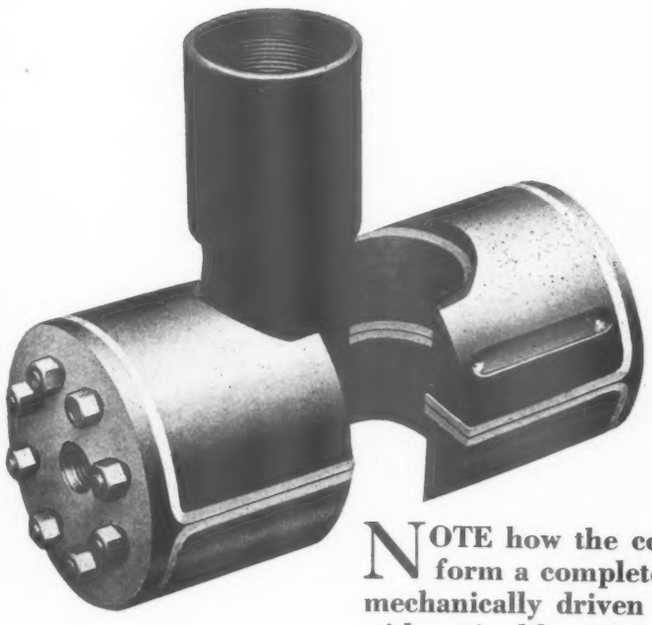
MENARD COUNTY—Barnett et al's Callan Ranch 2, dr 300 ft. J. L. Duffy & Carl Cromwell's Winslow 1, ur cas 2960 ft.

MITCHELL COUNTY — Teas Wheeler et al's Radford 1, td 4154 ft, running 6⅝ cas.

NOLAN COUNTY — Phillips Pet. Co.'s Plunkett 1, dr 3665 ft, white lime and salt water.

PECOS COUNTY — California Co.'s University Landrum 1, rig. Continental Oil Co.'s University 1-A, td 1830 ft, ur. Carl Crowley et al's Heiner 1, sd 1302 ft. Cowboy Evans et al's Pecos Valley 1, dr 1510 ft. Gibson-Johnson et al's Grace 1, fsh cas 1793 ft. Jayhawk Pet. Co.'s Price 1, spudded and sd. J. L. Kennedy et al's Kennedy 1, lcn. Sam Kitts et al's Sherbino 1, sd 1010 ft. Landreth Prod. Corp.'s University 1, sd 952 ft, gauged 66 million cu. ft gas. Mauch & Kroger's Holmes 1, sd 1442 ft. W. A. Moncrief et al's University 1, (Sec. 27) dr 105 ft; University 1 (Sec. 13) flowing 500 bbls oil, 1535-55 ft. R. E. Moore et al's Arnold 1, set cas 1045 ft. Geo. B. Morgan et al's Tippett 1, spudded and sd; Toberg 1, sd with good show oil at 320 ft. J. D. O'Mara et al's Bennett 1, fsh 875 ft; Streety 1, dr 815 ft. S. B. Owens et al's Masterson 1, lcn. Pecos Crude Oil Pur. Co.'s Pecos Valley 3, dr 1545 ft. O. J. Perren et al's Peterson 1, sd in sulphur water 1846 ft. Phillips Petroleum Co.'s Courtney Prior 1, dr

A CIRCLE OF STEEL



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3200 ft; Southwestern Life Insurance Co. 1, sd for repairs at 1050 ft. Rowan & Tong's McDonald 1, fsh 1565 ft. Mrs. M. M. Rowan et al's University 1, dr 510 ft. Schumacher et al's Williams 1, dr 3200 ft. Shell Pet. Corp.'s Jackson 1, dr 1410 ft; University 1-B, (Sec. 30) dr 1235 ft; University 1-C, dr 860 ft. Talbot et al's Unsicker 1, rig. Taylor-Link Oil Co.'s University 2, (Sec. 31) flowing 1536 bbls, 1616-26 ft. B. J. Spikes et al's Brown 1, sd 2258 ft. Texas Co. & Phillips Pet. Co.'s Campbell 1, sd 1865 ft. Tidal Oil Co.'s University 1-C (Sec. 17) sulphur water 1530 ft. Tidal Oil Co. & Tower-McKanna University 1-B, (Sec. 3) dr 1001 ft. Tower & McKanna Inc.'s University 1, dr 1060 ft. Transcontinental Oil Co.'s University 1, dr by tools at 4407 ft. Trees Oil Co.'s Trees 2, spudded. Clayton Williams et al's Sanford 1, dr 1526 ft. R. D. Webb et al's Fee 1, machine. World Oil Co.'s University 1 (Sec. 31) dr 500 ft; University 1-B, dr 1070 ft, small show gas at 1060 ft (Sec. 13).

PRESIDIO COUNTY — Brite Prod. Co.'s L. C. Brite 4, sd 569 ft. C. E. Miller-Delmar & Phillips Pet. Co.'s Tootle 1, dr 4120 ft. T. P. Coal & Oil Co.'s W. W. Bogel 1, dr 455 ft.

REAGAN COUNTY—Big Lake Oil Co.'s University 131, dr 8120 ft; University 151, dr brown shale 4810 ft; University 1-C, dr 3600 ft; University 2-C, fsh 4455 ft. Skelly Oil Co.'s University 5, rig.

REEVES COUNTY—H. T. Hansford et al's Williams 1, spudded and sd. Slack & Fink's Brooks-Huling 1, dr gyp 485 ft. Southern Crude Oil Pur. Co.'s Kloh 1-A, dr 1335 ft. D. R. Thompson et al's Eddins 1, fas 5658 ft. L. O. White et al's Mrs. Hershenson 1, dr 2600 ft.

RUNNELS COUNTY—Herbert Oil Co. et al's Currie 1, dr 2550 ft. Independent Oil & Gas Co.'s Rollowitz 1, td 4317 ft, sulphur water 4213-91 ft, dry and abn.

SCHLEICHER COUNTY — McKavett Oil Co. & Cromweli's Tisdale 1, sd 3500 ft. Phillips Pet. Co.'s J. A. Whitten 1, swabbed 65 bbls oil and water top sand 4933 ft, dr 4997 ft. Underwood Oil Co.'s Tisdale 1, spudded and sd.

SCURRY COUNTY—Camp Springs O&R Co.'s Quinn 2, spudded. Cottingham & Briscoe's Truss 1, td 740 ft, ur cas. R. B. Pender et al's Davis 1, fsh 3700 ft. Texas-Canadian Oil Co.'s Mooar 1, lcn.

SUTTON COUNTY — Phillips Petroleum Co.'s Holman 1, fsh 6633 ft. L. G. Priest et al's Allison 1, co to deepen, td 3255 ft.

TAYLOR COUNTY — J. B. Dunnigan & Shell Pet. Corp.'s Davidson French 1, dr 710 ft. J. B. Jameson et al's Webb 1, sd 4917 ft. Magnolia Pet. Co.'s W. E. Hamner 1, dr 3050 ft. Mid-Continent Pet. Corp.'s Cody 1, sd 2260 ft. C. M. Root Drlg. Co.'s Martin 1, fsh 2475 ft.

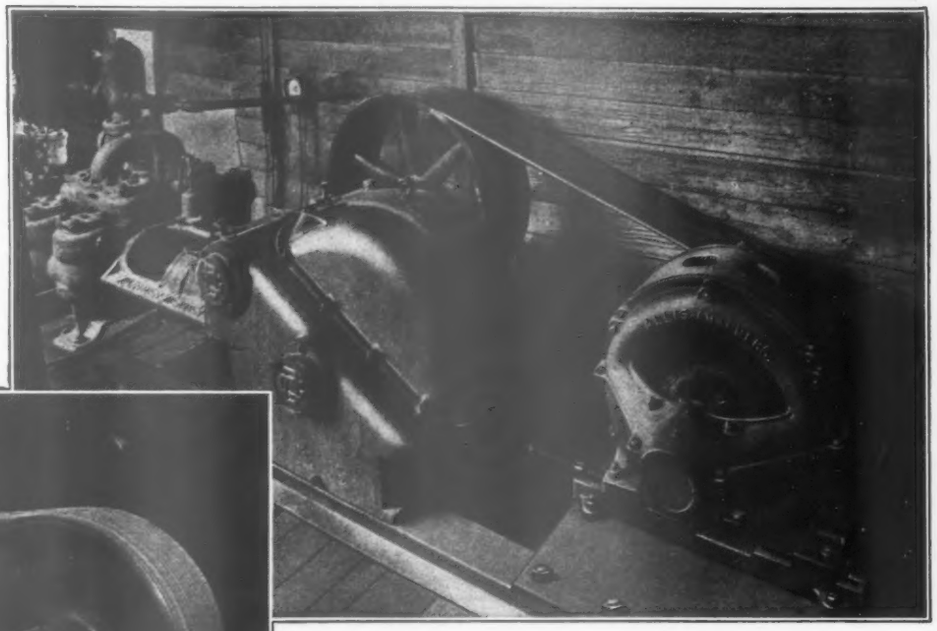
TERRELL COUNTY—Big Bend Oil Co.'s Bassett 1, td 1155 ft, ur 10-inch cas at 1000 ft. Keck Pecos Oil Trust's Hamilton 1, dr 2650 ft. Mrs. J. B. McPhee et al's Sam Belt 1, sd 880 ft. Milham Explo.'s Bassett 1, dr 5360 ft.

UPTON COUNTY—Prairie Oil & Gas Co.'s McQuatters 1, dr 1490 ft.

VAL VERDE COUNTY—Dyar Bros. et al's Wilson 11, sd 3255 ft. Producers Oil Co. et al's Everett 1, sd 2525 ft. Val Vert Oil Corp.'s Bassett 1, dr by 6-inch cas at 3900 ft.

WARD COUNTY—Alpine Oil & Dev. Co.'s Boogher 1, stg cmt 768 ft. Atlantic & Delmar Oil Co.'s Hayzlett 3, flowing 102 bbls after second shot, td 2500 ft. Continental Oil Co.'s Sealy 2, dr 1525 ft. C. C. Dorr et al's Costley 1, rig. Cranfill-Reynold's Robeson 1, rig. Gulf Prod. Co.'s Hutchings 2, bailing at 2780 ft, flowed 10 bbls in 4 hrs; O'Brien 6, dr cemt out 8¼ cas at 2377 ft; Wristen 2, co to 2480 ft, flowed 110 bbls. Penn Oil Co. & Atlantic's Bennett 1-A, dr 1640 ft. Shipley Oil Corp.'s Lee Monroe 1, sd 520 ft. Tex-Oil Production Co.'s Redman 1-A, fsh 710 ft.

WINKLER COUNTY—V. T. Bolin & Co.'s Brown 2, sd 2420 ft. Continental Oil Co.'s Morton 1-A, sd 2760 ft. Liner Drlg. Co. et al's Campbell 1, sd in lime at 2005 ft.



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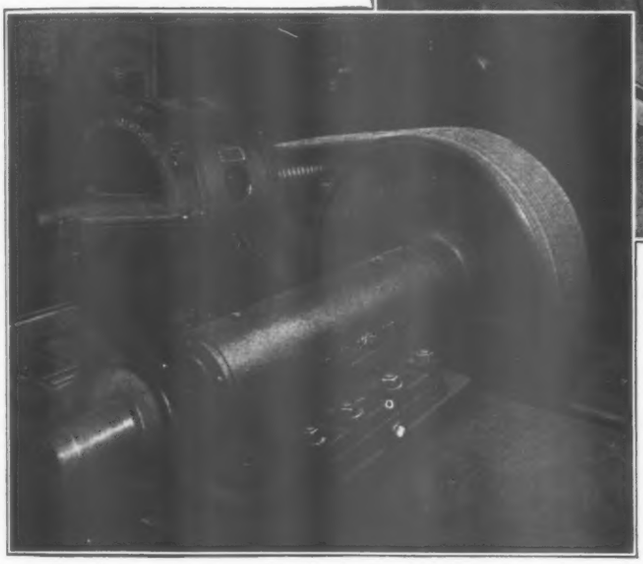

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CONSULTING GEOLOGIST
ADVISOR ON GEOPHYSICAL INSTRUMENTS
619 Petroleum Bldg., Houston, Texas

COMPLETIONS

(Continued from page 86)

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CRANE COUNTY—		
Tidal Oil Co., University 2-E	97	3016
HOWARD COUNTY—		
Fuhrman Pet. Co., H. C. Read 1...	*	3275
McGinley-Sigler Corp., B. Hyman 1	15	1347
Moody Corp., D. Roberts 17-A	50	1410
Pure Oil Co., Scrivner 1	65	2302
LOVING COUNTY—		
Lockhart & Co., Bowen & Wells 2..	652	4233
PECOS COUNTY—		
McMan Oil & Gas Co., J. H. Tippett 4	215	1374
Phillips Pet. Co., Monroe 2	130	1385
Shell Pet. Corp., Mrs. M. A. Smith 11	770	1542
Taylor-Link, University 2 1553		1630
UPTON COUNTY—		
Dixie Oil Co., A. S. Burleson 30...	355	2045
WINKLER COUNTY—		
Magnolia Pet. Co., Scarborough 2..	155	3062
Skelly Oil Co., Daugherty 4	130	2935
Southern Crude, Hendrick 88-CX-2..	580	3000

EAST CENTRAL TEXAS

BURLESON COUNTY—		
Silver Moon Oil Co., W. R. A. Rogers 1, J. D. Rogers sur.....	*	2910
FALLS COUNTY—		
Killam & Phillips, C. A. Jones 2, Wm. Hampton sur	*	1797
LIMESTONE COUNTY—		
C. F. Lytle, Thompson 1, wo, Mexia	*	6061

NORTH LOUISIANA

CADDO PARISH—		
Gulf Ref. Co., Levee Bd. A-18, 22-21-16	35	1823
L. A. Warren, Ivins 1, 33-22-15 ...	*	1730
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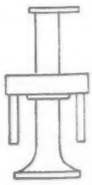

Blue Devil

Red Top

The ECONOMY *is an oil pump that* NEVER SANDS UP

A strong assertion — but backed by the performance proof of Economy Pumps. Built to an idea that nothing that goes into the construction "*is good enough*" — it must be the best. This is the reason for our unconditional guarantee of quality.

The Economy is built upon the engineering knowledge of a Company whose one thought is the production of the best liner barrel obtainable. The one pump that increases production, maintains production, stops cut oil and stays put— What more could you ask for!

Made in two styles, the BLUE DEVIL with 4 or 8 cups traveling valve, and the RED TOP with perfection Pack Valve. Made in all lengths and for 2″ and 2½″ tubing. Economy Pumps are made one foot shorter than standard working barrels, 4 ft., 5 ft., 6 ft., and 7 ft.

The ECONOMY Pump is the one pump with the one price, regardless of length, the 2″ BLUE DEVIL with 4 cup valve selling for $32.00; with 8 cup valve $36.00.
The RED TOP with Perfection pack valve $36.00.
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To those that have not used Economy Pumps we offer you this plan; send us an order for a RED TOP and we will give you a BLUE DEVIL, run them both, decide yourself, then your orders will come for more either thru your Supply House or direct.

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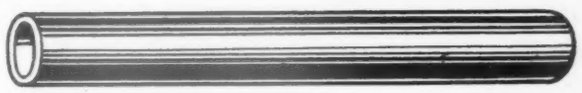

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When one of the worlds' foremost pipe-line contractors, who has already purchased over 60 Buckeyes, *wires for more*—it is positive proof that this equipment is thoroughly dependable and profitable.

Answering the roll call of Buckeye users, along with Williams Brothers, Incorporated, are the Oklahoma Contracting Company, Hope Engineering Company, Sheehan Pipe Line Construction Company, E. A. MacPherson, Smith Brothers, Truman-Smith Construction Company, and many others. They have followed the business from infancy to a giant of American industry. For over thirty years, Buckeye—the *original* pipe-line ditcher—has kept faith with their progress. *The pioneer continues to be the leader.*

These enthusiastic owners know from successful experience that Buckeyes can be relied upon to go "down the line" through good or bad soils, heat or cold and up hill or down, with a speed and operating economy no other method can approach.

In the world's oil and gas fields, more pipe is buried and back-filled with Buckeyes than with all competitive makes combined.

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FINDLAY OHIO

SHIP US QUICKLY AS POSSIBLE TO BLANCHARD LOUISIANA ONE MODEL THIRTY TWO DITCHER ONE MODEL OB CRANE ONE MODEL D BACKFILLER ALSO TO WINGEN LOUISIANA ONE MODEL THIRTY TWO DITCHER ONE MODEL OB CRANE ONE MODEL D BACKFILLER ALSO TO VIENNA LOUISIANA ONE MODEL THIRTY TWO DITCHER ONE MODEL OB CRANE ONE MODEL D BACKFILLER ALSO TO STERLINGTON LOUISIANA ONE MODEL THIRTY TWO DITCHER ONE MODEL OB CRANE ONE MODEL D BACKFILLER STOP WIRE US WHEN FIRST OUTFIT WILL LEAVE FACTORY.

WILLIAMS BROS., INC

POSTAL TELEGRAM - COMMERCIAL CABLES
TELEGRAM

TULSA OKLA JULY 15 1929.

BUCKEYE TRACTION DITCHER CO.,
FINDLAY,OHIO

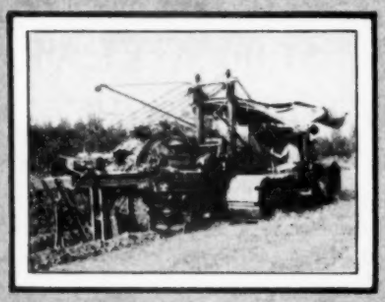
AM MAILING YOU TODAY PHOTOGRAPHS REQUESTED SHOWING OPERATIONS OF MACHINES PURCHASED FROM YOU MAY TWENTY EIGHTH STOP ALL THESE MACHINES HAVE BEEN RUNNING APPROXIMATELY TWENTY FOUR HOURS PER DAY CONTINUOUSLY SINCE ARRIVAL ON THIS JOB 25TH NO COMPLAINTS TO DATE

G C SMARTZ
MECHANICAL SUPT
FOR WILLIAMS BROS., INC.

Briefly, these are a few of the reasons why Buckeyes render *"superior performance in oil field requirements."*

Pipe-Line Ditchers—built in a complete range of sizes, each having its field. Standard construction includes heavy-duty, four-cylinder power units of ample size; Alligator traction with brakes for steep grade work; steel construction throughout; digging wheel heavily built and double driven through a differential; combination buckets for every soil condition; and power control for every operation.

Utility Backfiller-Crane (full-revolving)—quickly converted, without drum lagging, from Backfiller to Crane, Clamshell or Dragline. Equipment includes two speeds for every operation through enclosed transmission; full-length Alligator traction; Twin Disc reversing clutches; all machine-cut gears, heat-treated; chrome nickel heat-treated and ground shafting; and Timken roller bearings.



Model D Backfiller (semi-revolving)—strictly a one-man machine, built to handle large yardage at low cost. It is often used as a light crane for handling pipe into the ditch, etc.

Model F Backfiller—a light, speedy, compact unit for the backfilling of pipe-line ditches. Low in original and maintenance cost.

Write for complete descriptive data.

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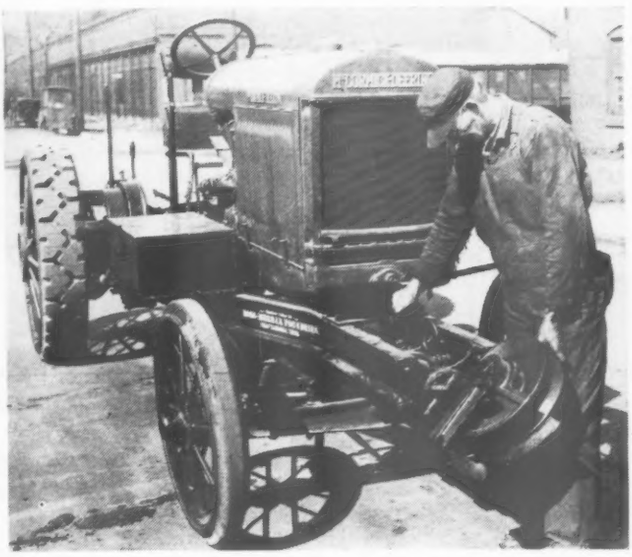


White and Williamson's New Tractor Winch

Multi-Speed Winch

WHITE AND WILLIAMSON

White and Williamson of Chattanooga, Tennessee, have recently introduced their Multi-Speed winch for the oil country, a product which is distributed by Lucey Products Corporation.

From the spooling drum the cable is led under the tractor body, out the front end and over a swivel sheave, permitting correct alignment with work without the necessity of shifting the tractor position, and still have the correct spooling on the drum. Thus it is not necessary to have the drum in line with the derrick floor nor the tractor in line with the work.

The Multi-Speed offers 22,000 pounds direct line pull in low speed, which, with three lines on the tubing jobs, gives a maximum pull on the elevator of 66,000 pounds, sufficent to pull a 5000-foot string of tubing.

It is equipped with external and internal brakes that operate independently of each other. In addition to the regular transmission brakes of the tractor these brakes directly operate when the drum clutches of the winch are disengaged.

The Multi-Speed winch wheels are equipped with solid rubber tires, 50 x 10-inch rear and 34 x 5 front. In addition two rear lug wheels that fasten to the rubber tired wheels for traction in mud and bad roads are furnished as standard equipment. The diameter of these lug wheels is slightly smaller than the rubber ones, which permits travel on good and improved roads without necessity of removing the lugs and vice versa, permits traction in mud and sand, the lugs giving traction when the wheels bog down.

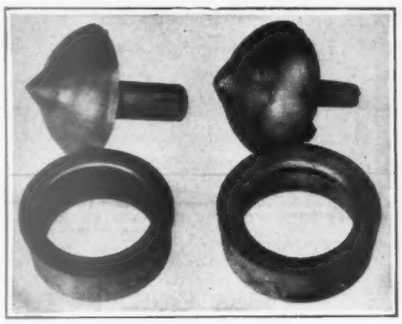
All winch and tractor controls are within convenient reach of the operator from the regular tractor seat, enabling the driver to see all operations of lines, blocks and men in and on the derrick floor.

The drum is rigidly mounted on the rear axle shaft and is driven through positive jaw clutches from each side, for heavy duty work, with alternate friction drive for medium and light duty work. The drum is mounted on Hyatt roller bearings and free on the shaft when the clutches disengage, giving no driving mechanism to drag. The drum does not interfere with the draw-bar pull.

Slush Pump Valve

CALIFORNIA MANUFACTURING AND ENGINEERING COMPANY

California Manufacturing & Engineering Company, 5333 Riverside Drive, Los Angeles, is now selling the new "Calmac" valve for slush pumps. This new valve is of the oscillating type and has all of the working characteristics of the ball valve, a spherical valve gate seating itself in a ring. As will be noted in the accompanying illustration, the spherical portion of the valve has a conical tip which controls the oscillattion and prevents the possibility of the valve oscillating too far in any direction. The coupling between the valve and the stem is loose in order to allow the valve to either rotate or oscillate in its seat.



One of the characteristics of the valve is the elimination of rubber and the elimination of the wing guide. From the beginning of the up stroke until the end of the down stroke the valve is open, eliminating back pressure which ordinarily is created during that portion of the stroke between the time the valve has left its seat and the time that the wing guide cleared the orifice.

The valve was run nine weeks under test with no appreciable amount of wear on the seat and no measurable wear on the valve itself, the manufacturers state. The lateral rotation and the oscillation of the valve have tended to keep it lapped and create a tight joint.

The "Calmac" valve is designed for working as efficiently at extremely shallow production as in deep wells, having been constructed to prevent the lodging of coarse gravels of upper sands on the valve seat, and causing the valve to be held open, cutting out the valve and seat.

Small Lighting Plant

MOON MANUFACTURING COMPANY

Moon Manufacturing Company, 108-128 North Jefferson Street, Chicago, has recently started marketing a small lighting plant of two kilowatts for lighting drilling rigs, lease properties or compressor stations. A leading feature in this new unit is its compactness, occupying a floor space of only 16 x 29 inches. The machine has full ball-bearing construction throughout, which is dust-tight and water-tight and which is fed with oil in a constant spray, by means of oil rings.

This new lighting unit is fully described in a recently published four-page bulletin, which may be secured by writing the above address.

CHAIN BELT CATALOG

Chain Belt Company, Milwaukee, and the Stearns Conveyor Company have jointly published the new Rex 330 catalog and engineering data book. It is the latest contribution to literature on chains, power transmission, water screening and mechanical conveying.

The book carries 800 pages of information on chains and chain drives, elevators and conveyors, traveling water screens and construction machinery, describing the products of Chain Belt Company in detail, including more than

60 types of chain. A vast amount of engineering information of interest to plant executives or engineers. Subjects such as "Advantages of the Chain Drive," "Design of Chain," "Design of Chain Installations," "Proper Direction of Chain Travel," "Working Loads," "Selection of Drive Chains," "Determination of Pitch," and "Operation and Care of Chains" are carried in this catalog with illustrations.

There are a number of special sections, each dealing with the application of equipment for the mechanical handling of material in some specific industry. Several hundred photographic illustrations are carried, and more than 30 pages of the catalog are given over to general engineering data.

Chain Belt Company offers to send a copy of the Rex 330 Catalog and Engineering Data Book to any executive or engineer operating official who is interested in keeping in touch with the latest development in the field of power transmission, conveying, water screening or construction machinery.

FIRE FIGHTING CATALOG

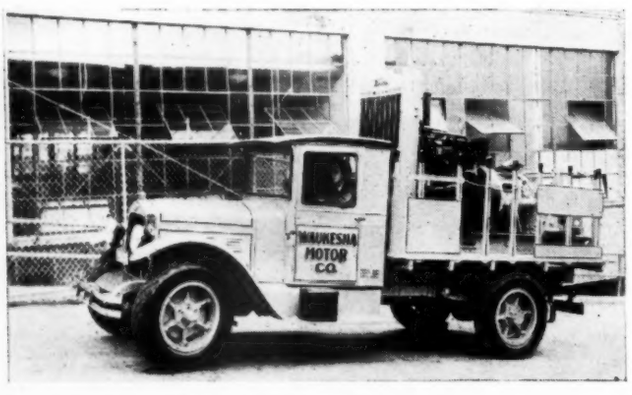
The American-La France and Foamite Corporation, Elmira, New York, has recently turned out a 176-page catalog on its modern fire-fighting equipment, supplemented by a 34-page price list booklet. The catalog carries an index of all equipment described, and photographic illustrations of this equipment. The company will gladly mail a copy to any interested person asking for catalog edition No. 29.

Waukesha Demonstration Truck

The oil industry equipment division of Waukesha Motor Company, Waukesha, Wisconsin, has recently completed plans for a demonstration tour covering all of the leading fields of the United States for the Waukesha drilling engine. An 85-horsepower four-cylinder engine with reversing transmission is mounted on a two-ton Sterling truck, which is powered by a Waukesha six-cylinder motor.

All dealers selling Waukesha oil field equipment will be contacted during the field trip. The engine is equipped to operate either on natural gas or gasoline, but will use gasoline as fuel on the tour. All field men interested in seeing the unit will be given the opportunity of operating the controls and studying the performance of this advanced design.

Four sizes of engines are available in the "Type G" design. The 75- and 85-horsepower four-cylinder engines are furnished for the shallower territories, and 100- and 125-horsepower six-cylinder engines for heavier work in deep cable tool drilling.



Waukesha Demonstration Truck

The Hydraulic Equipment Corporation has recently been organized with offices in the Marine Banking and Trust Company building at Houston. The company will engage in the design and manufacture of hydraulic equipment for oil field use. Among the products offered by the new company are: hydraulic plugs, hydraulic packers, hydraulic whipstocks, hydraulic portable lifting outfits, hydraulic top lift pumps, hydraulic bottom lift pumps, hydraulic screen cleaning outfits, steam driven hydraulic pumps, hydraulic control heads, hydraulic break devices, hydraulic throttle valves, hydraulic casing cutters, hydraulic blow-out preventers, hydraulic pipe tongs, hydraulic coring devices and hydraulic pump liner extractors.

S. R. KIMBERLY

Axelson Machine Company of Los Angeles announces the appointment of S. R. Kimberly as research engineer in charge of all metallurgical work and of the laboratories and test room of the company. Kimberly succeeds William Lowry, who has recently resigned, and with whom Kimberly has been working as assistant research engineer for the past two years. Before this Kimberly, who is a graduate of Rennselaer Polytechnic Institute of Troy, New York, was five years with the International Harvester Company in charge of similar work. He will carry on the investigations and tests being made by the Axelson Machine Company in the process of manufacturing pumps, sucker rods and precision gauges.

BOB AMES

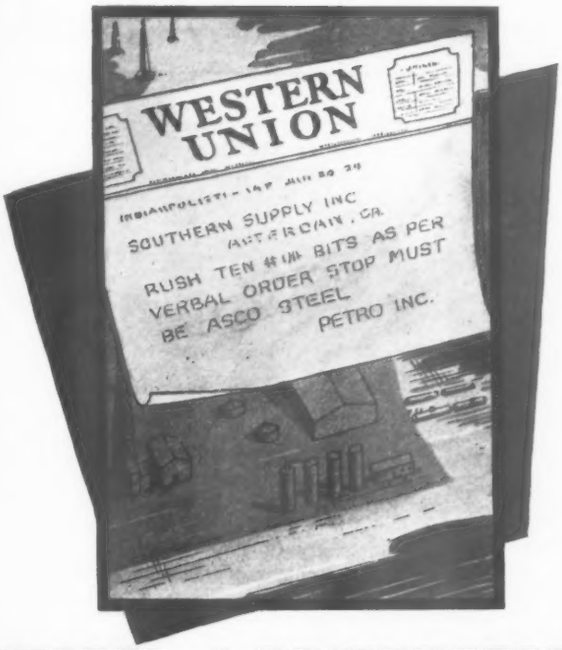
E. R. "Bob" Ames, formerly Mid-Continent manager for the Elliott Core Drilling Company, with headquarters at Houston, has recently joined the Texas Creosoting Company as engineer in charge of oil industry sales. He will maintain headquarters at the company's home office in Orange, Texas.

Raymond Redden has been district sales manager of the oil and gas fields products division of the A. O. Smith Corporation, Houston district since July 1. Offices are located in the Neils-Esperson Building at Houston. Redden was formerly district manager for the National Tube Company at Salt Lake City, Utah.

Harry W. Young, who has been with the Hubbard Drilling Company for the past several months, is again with the Bridgeport Machine Company. Mr. Young will make Tulsa his headquarters as manager of the sales in eastern Oklahoma, Wichita Falls, Dallas and Fort Worth, Texas. He was with Bridgeport Machine Company for six years prior to going with the Hubbard Drilling Company. His present territory is larger than when with the Bridgeport Machine Company previously.

J. L. Ragan, formerly connected with the Marland Production Company, is now representing the Wickwire Spencer Sales Corporation, with headquarters at Pampa, Texas.

Dean Rollans, credit manager of the Wickwire Spencer Sales Corporation, New York City, is temporarily in Pittsburgh on company business.



THE ANSWER
to the drillers' demands!

It is said an "Ideal" is never obtained—that it is something mythical—too perfect to be within reach of mankind.

Yet the drillers' ideal may be reached with a bit made from ASCO Well Bit Tool Steel—steel which causes the driller to cast aside worry about rock formations. ASCO Well Bit Tool Steel is made to stand the gaff under the most severe strains, thereby giving the assurance of continuous drilling without fear of tool or labor loss.

When the going gets tough, try a bit made from ASCO Well Bit Tool Steel—watch the results—note the difference.

THE ANDREWS ASCO STEEL CO.
NEWPORT KENTUCKY

ECONOMY

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THE phrase "Garlock Economical Packing Service" is not a sales myth as it actually functions. This is attested to by thousands of its users. All Garlock Packings are built so that their purchase value is greatly enhanced when reckoned in terms of service rendered.

GARLOCK-357 "O" Center Spiral Packing is a part of Garlock Economical Packing Service. It is constructed of asbestos cloth frictioned with tenacious rubber compound and properly lubricated. It will render long service as it is a Quality Controlled Product. The "O" Center design of the body structure allows it to compensate for any swell in the material. This feature has a tendency to eliminate the friction load on the rod, thus saving power.

It is recommended for use on piston rods of mechanical equipment where extreme vibration or lateral motion is encountered.

The Garlock Packing Company
Manufacturers of Mechanical Packings
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TIME means
MONEY

Because the APPLEMAN GUMBO BIT is a new departure from the conventional design, having been worked out after considerable research and logical scientific study . . . it gives the following advantages:

1 FAST CUTTING.—Specially designed cutting edges give speed. A rapid mud mixer. Less spudding required.

2 SELF-SHARPENING. — The blades are formed concavely favoring sharp cutting edges for both bottom and side of hole. Attained by hard facing, permitting wear on back to retain cutting edges.

3 NO CHOKING-UP. — Note that straight water courses lead direct to cutting edges. Maximum cooling effect. Cuttings rapidly broken up and washed away in solution.

4 FULL ROUND HOLE.—Cuts side wall as it drills. Wel prepared side wall. Holds gauge longer. Reaming rarely necessary.

A MONEY MAKER

Records show that this bit makes an average of 60% to 100% more hole in the same given time in all formations excepting rock. Less labor. Less expense.

(Patent Applied for)

[Names of prominent users will be mailed upon written request.]

Write for information on this astounding improvement in design of fish tail bits.

B.K.APPLEMAN
BEAUMONT, TEXAS

Squeaks from the Bull Wheel

A minister took charge of an old Gloucester church during his vacation in July. One Sunday afternoon, down by the wharves, he introduced a couple of sea dogs to each other.

"Captain Salt, this is Captain Binnacle," he said. "You probably saw each other in church this morning."

"Aye, aye," said old Binnacle heartily. "He was sleepin' in the next bunk to mine."

A traveling man was talking to the proprietor of a jewelry store. "I see your sign reads 'A Fraud, Jeweler.' That sounds bad; why don't you use your full given name?" he asked.

"Well," replied the proprietor, "my full name would sound worse; it is Adam."

Suffering with very bad toothache, the young man rang the night bell at the dentist's new house. The dentist's wife answered the door.

"Do you want to see the dentist?" she asked. "Couldn't you come tomorrow morning?"

"Well," said the young man hesitatingly, "isn't the dentist in?"

"Oh, yes, he's in," said the young wife wistfully, "but you're his first patient, and I'd like you to come as a surprise for him tomorrow. You see, it's his birthday."

"I bought a new car and traded in my player-piano as first payment."

"I didn't know they accepted player-pianos as payment on new cars."

"They don't, usually, but the salesman is a neighbor of mine."—Judge.

Telephone Operator—I have your party. Deposit five cents, please.

Voice from Pay Station—Whaz zat?

Please deposit your money.

Listen; what I want is conversation with a friend, not financial advice from a stranger.

And am I the first girl you ever loved?

No, dear, but I'm harder to suit now than I used to be.

Gossip: I just saw old John Bright try to kiss your daughter in the grocery store.

Snappy Mother: Did he kiss her?

No, she wouldn't let him.

Then it wasn't my daughter.

Have a cigar?

No, thanks, I don't smoke.

Have a drink?

I really don't drink.

Maybe you'd like to go in the ballroom and dance a bit.

Sorry, but I don't dance either.

Well, my wife has a ball of yarn and some needles; perhaps you'd care to knit a little.

When I saw my wife's scanty bathing suit I sure gave her a piece of my mind.

That must be what she was wearing when I saw her.

Hey, you can't smoke in here.

I'm not smoking.

Well, you've got a cigarette in your mouth.

Yeah, but you got pants on, but you're not panting.

The conductor on a south bound local was passing through the car when he happened to notice an elderly Scotchman and a young Scotch lad. The old man was holding a watch in his hand and was watching it with intense interest. Suddenly he seemed satisfied and looked up. Seeing the conductor, he beckoned to him to come over.

"What is it?" asked the conductor.

"I want to pay the rest of my grandson's fare," replied the Highlander. "He has just become 12 years old."

What makes her so wild?

Her father was a pitcher.

Bridget and Pat were studying the law of compensation.

"Accordin' to this," said Bridget, "whin a man loses one sense his others are more developed."

"Sure an' O'ive noticed it," exclaimed Pat. "Whin a man has one leg shorter than the other, begorra the other's longer."

"Why should I lend you five dollars?"

"For sentimental reasons."

"How's that?"

"I've got a date."

"Yes," said the bald man to the farmer with the conspicuous hair. "You can't have hair and brains too."

"Well," said the farmer. "It ain't no good thatching empty barns."

I'll always have a soft spot in my heart for you.

Then let's get married.

I said a soft spot in my heart, not in my head.

What did you mean by telling Dot that I'm a fool?

Why, I didn't know it was a secret, dearie.

Hubby (Complainingly): "You never tell me anything. Your life is a closed book to me."

Wifie: "Well, old dear, you're no loose leaf ledger yourself."

Prospective Customer: "I wouldn't think of buying that terrible looking car."

Salesman: "But, lady, you'd look just as bad without paint."

Pipe

as *fine* as can be made

Take a length of Bethlehem Steel Pipe. Test it in any way you please. Note its strong weld, its freedom from scale, its exceptional softness and ductility. See how easily it is cut and threaded, how clean and strong the threads are!

This is quality pipe! Pipe that will meet any test. Pipe that you can use with confidence on the most difficult jobs, where the requirements are most exacting—pipe that is as fine as can be made.

Bethlehem maintains at Los Angeles, Calif., and at Houston, Texas, well-assorted stocks of line pipe, ready for immediate shipment. Both threaded and coupled and plain-end pipe are included in these stocks.

BETHLEHEM STEEL COMPANY

***General Offices:* Bethlehem, Pa.**

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BETHLEHEM STEEL PIPE

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GASO WALKING BEAM PUMP No. 601, *For Oil or Water*, is adapted for use on leases where no pumping power is available, connecting direct to the beam by means of wood or pipe pitman. Has an extra long stroke and can be set for straight line pull. For 400 to 600 pound working pressures.

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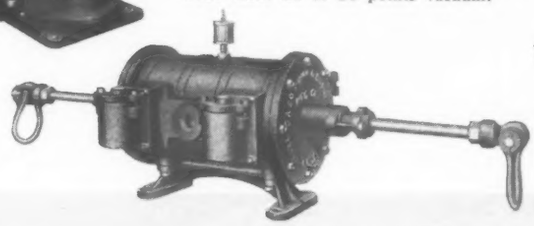

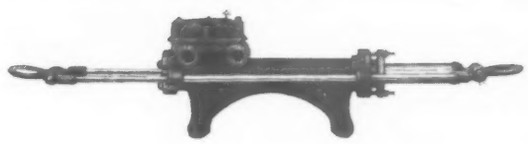

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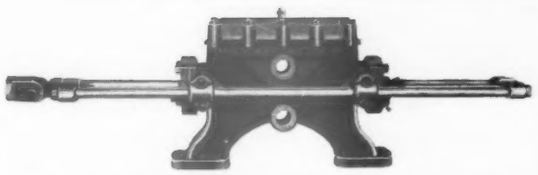

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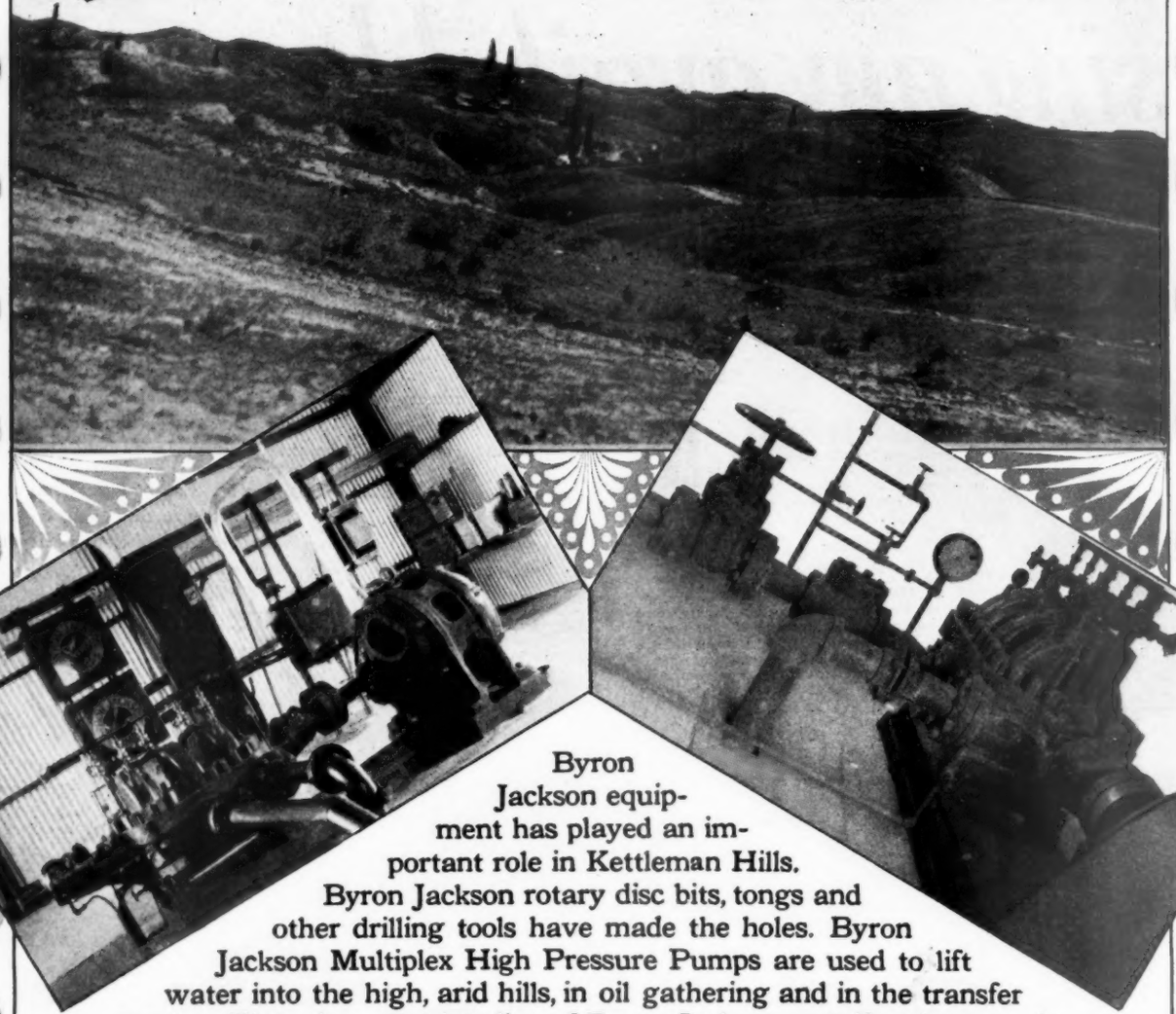

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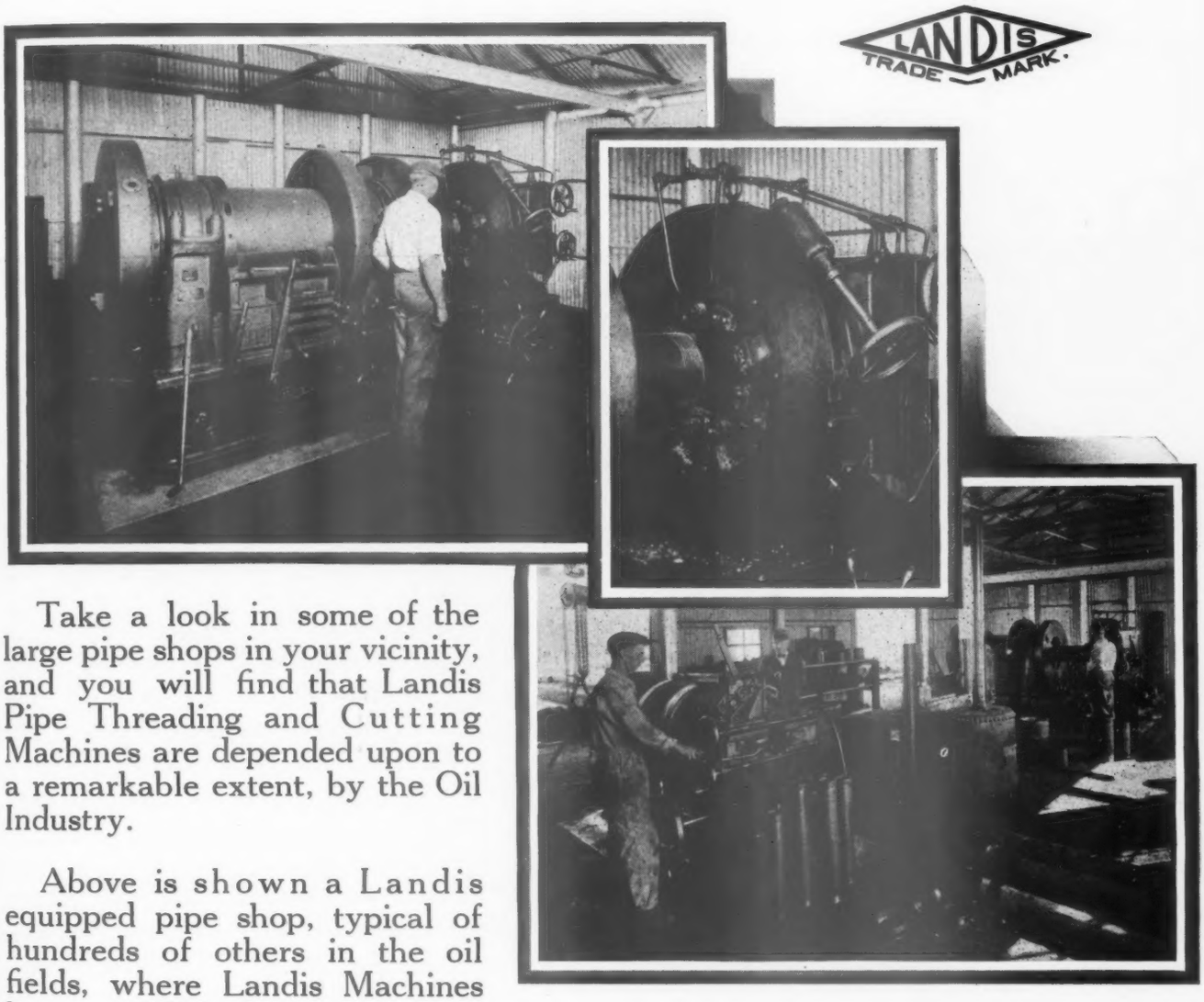

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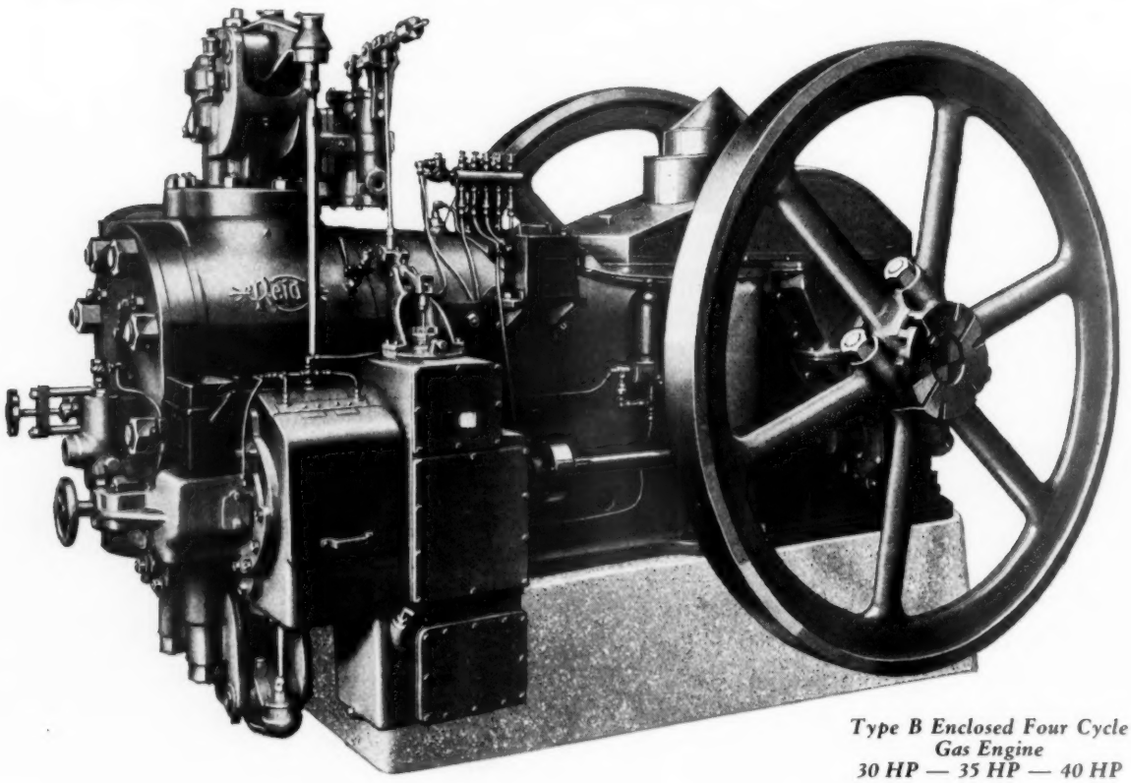

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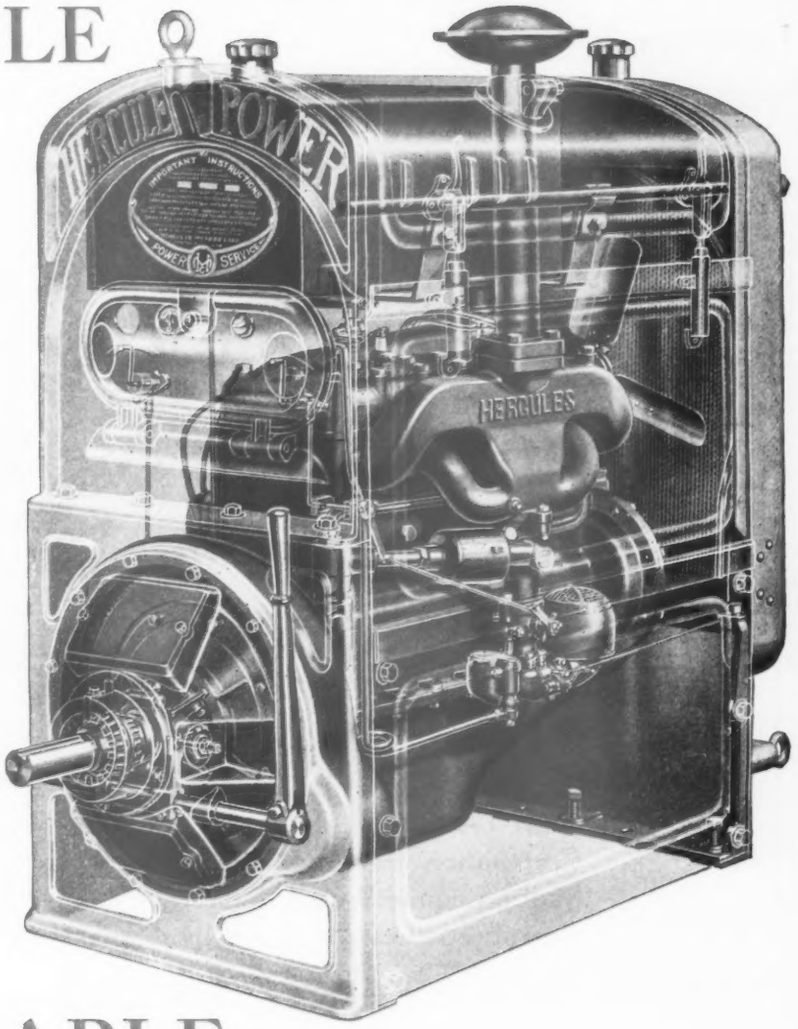

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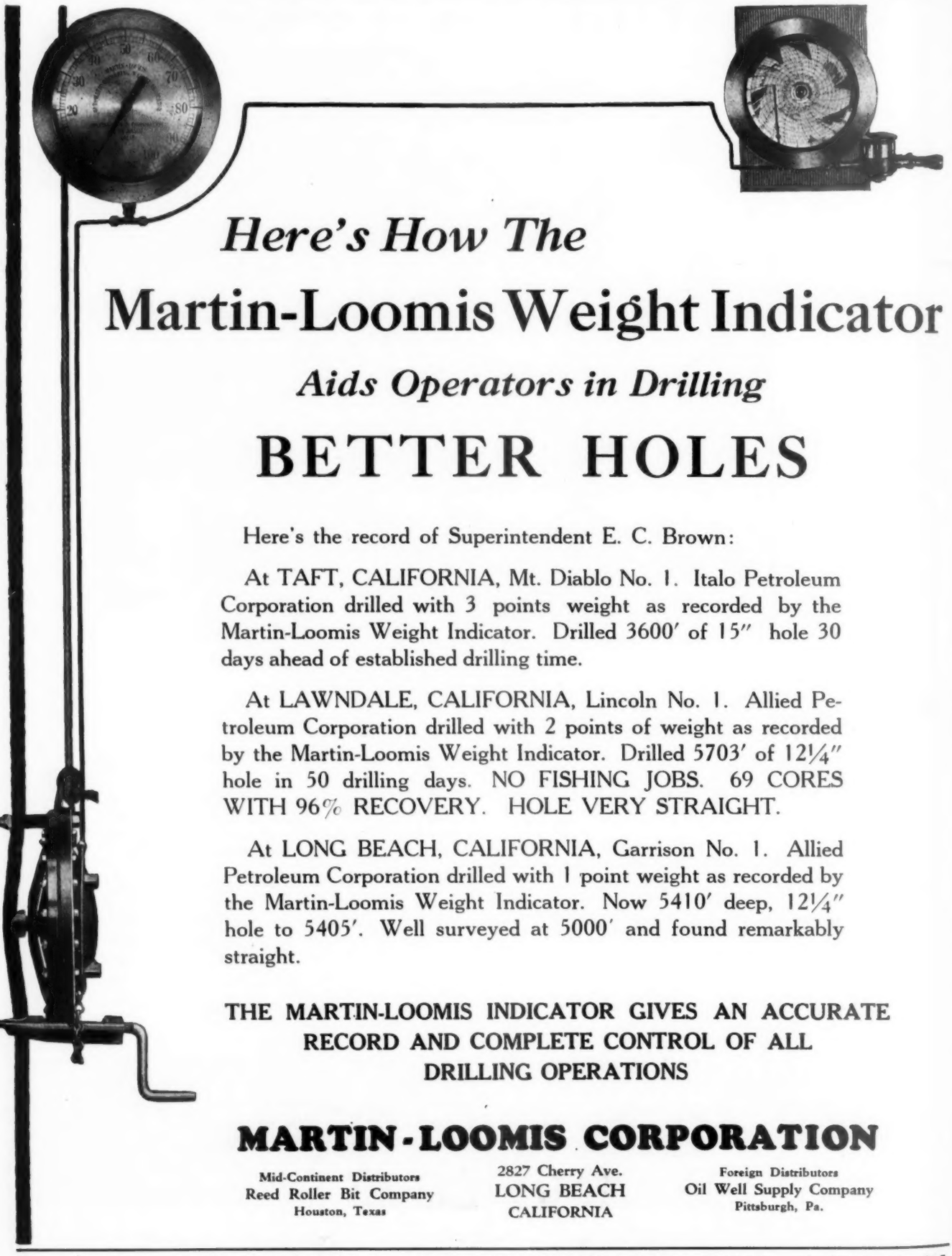

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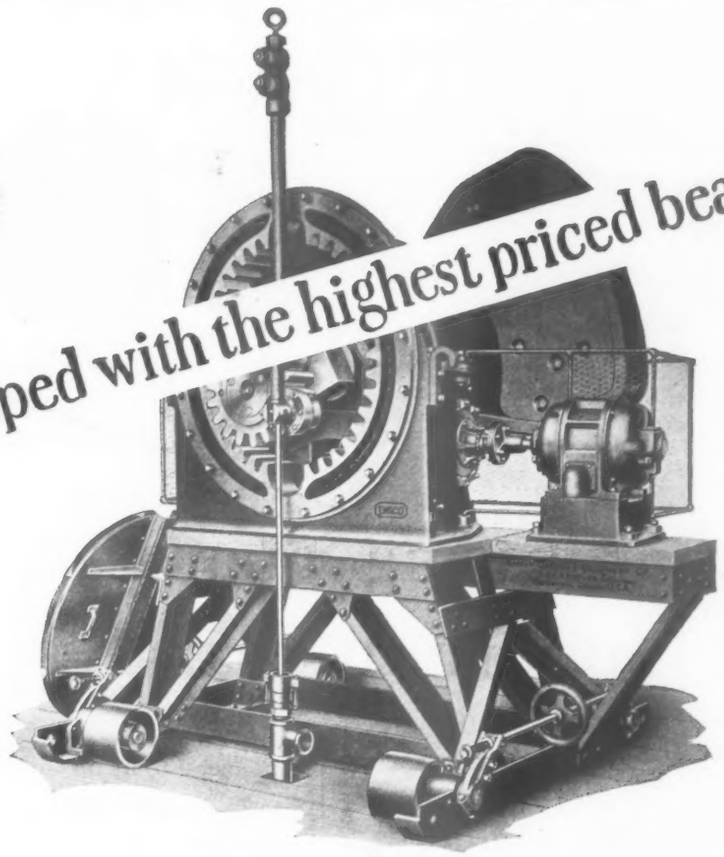

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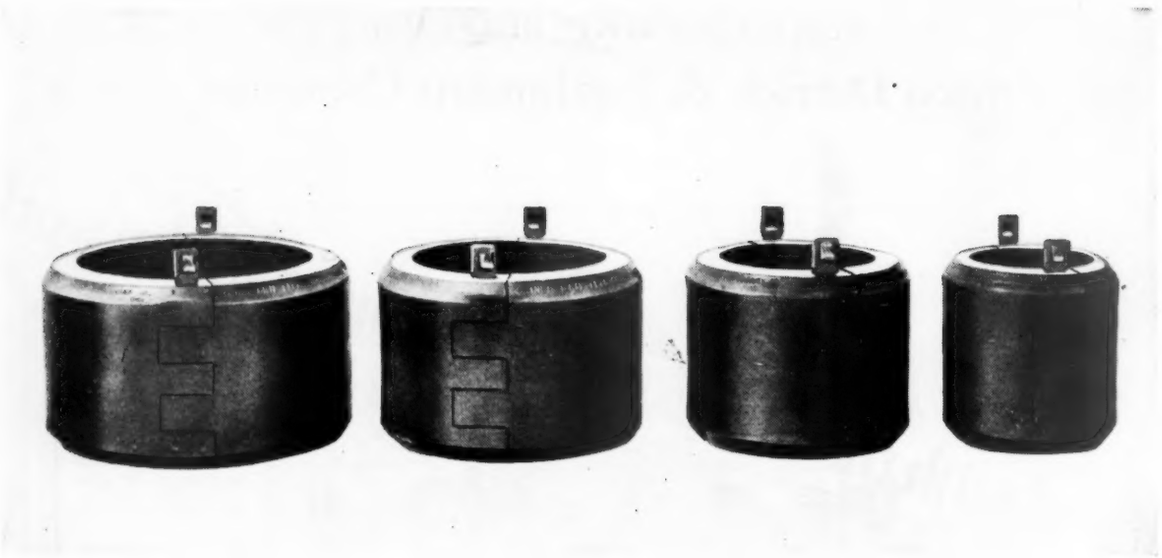

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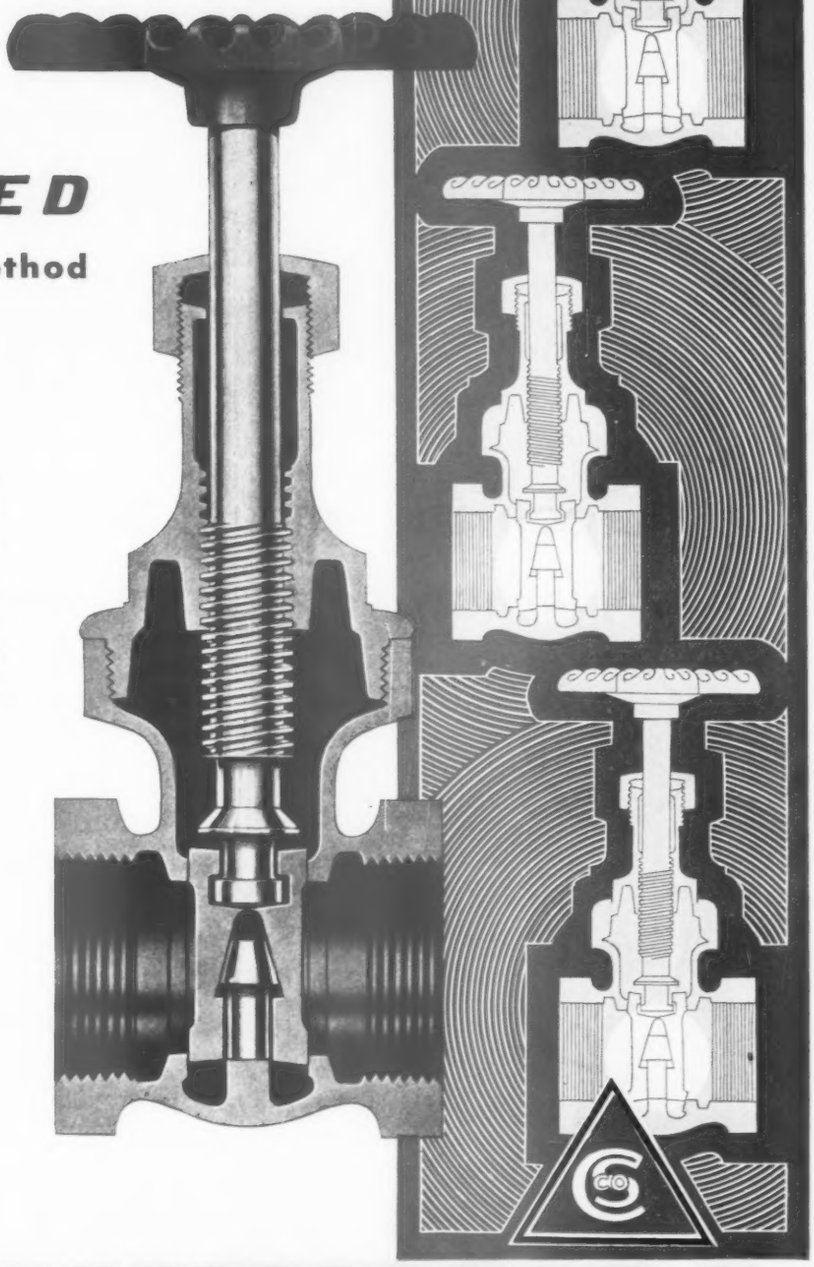

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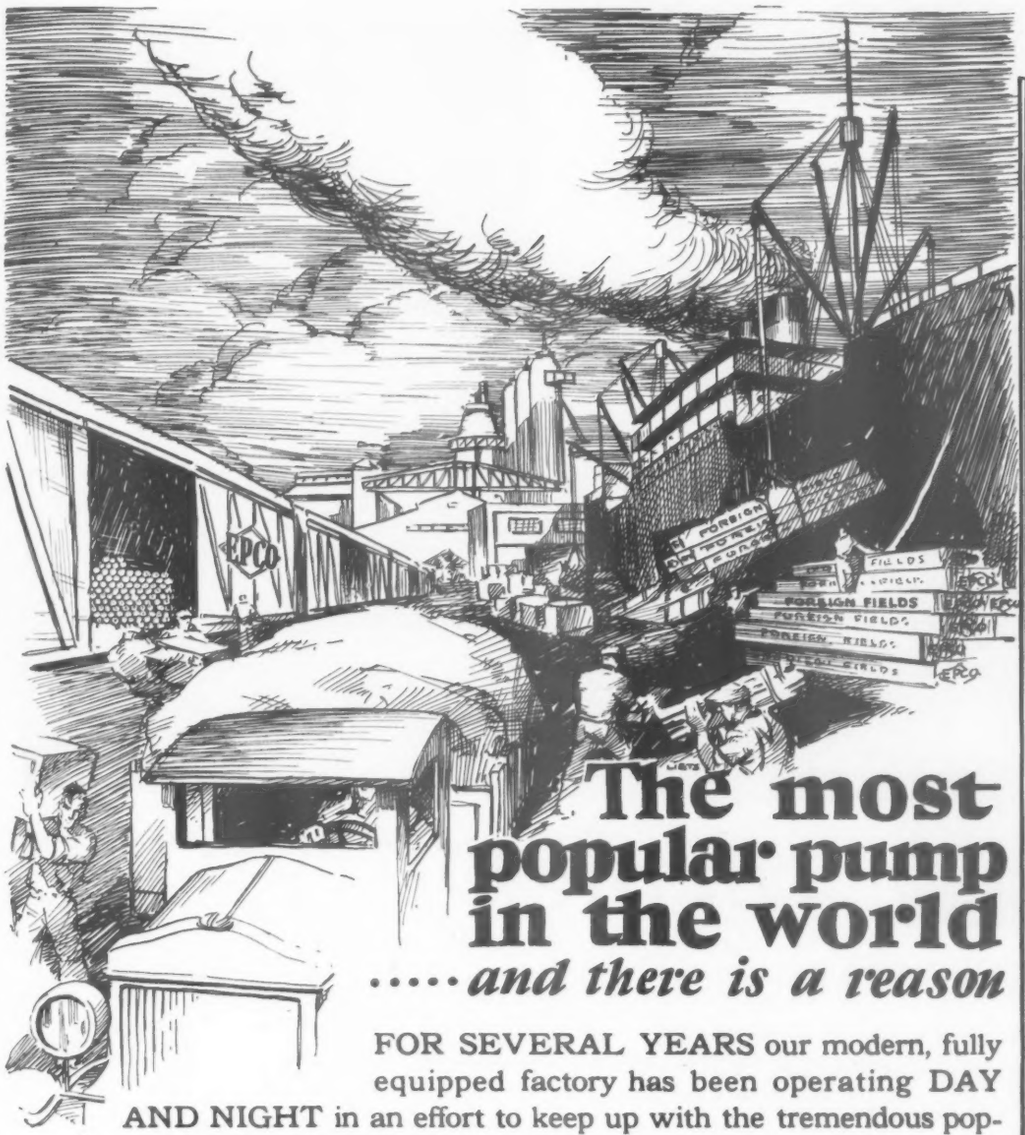

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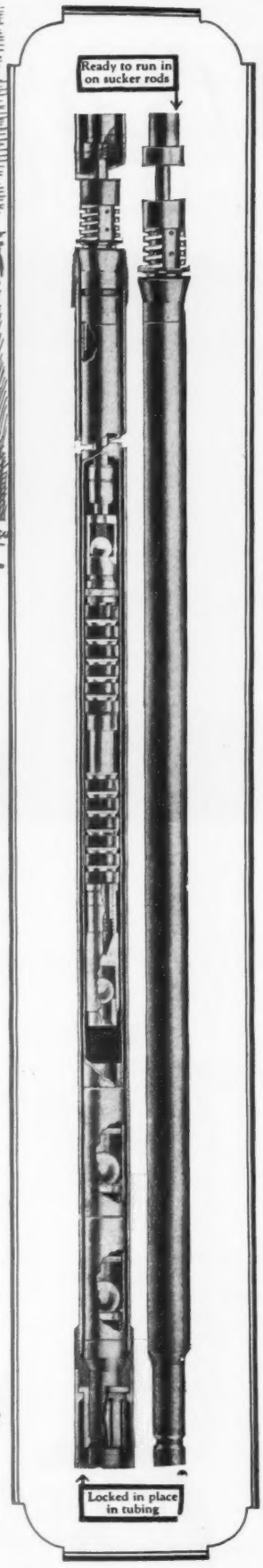

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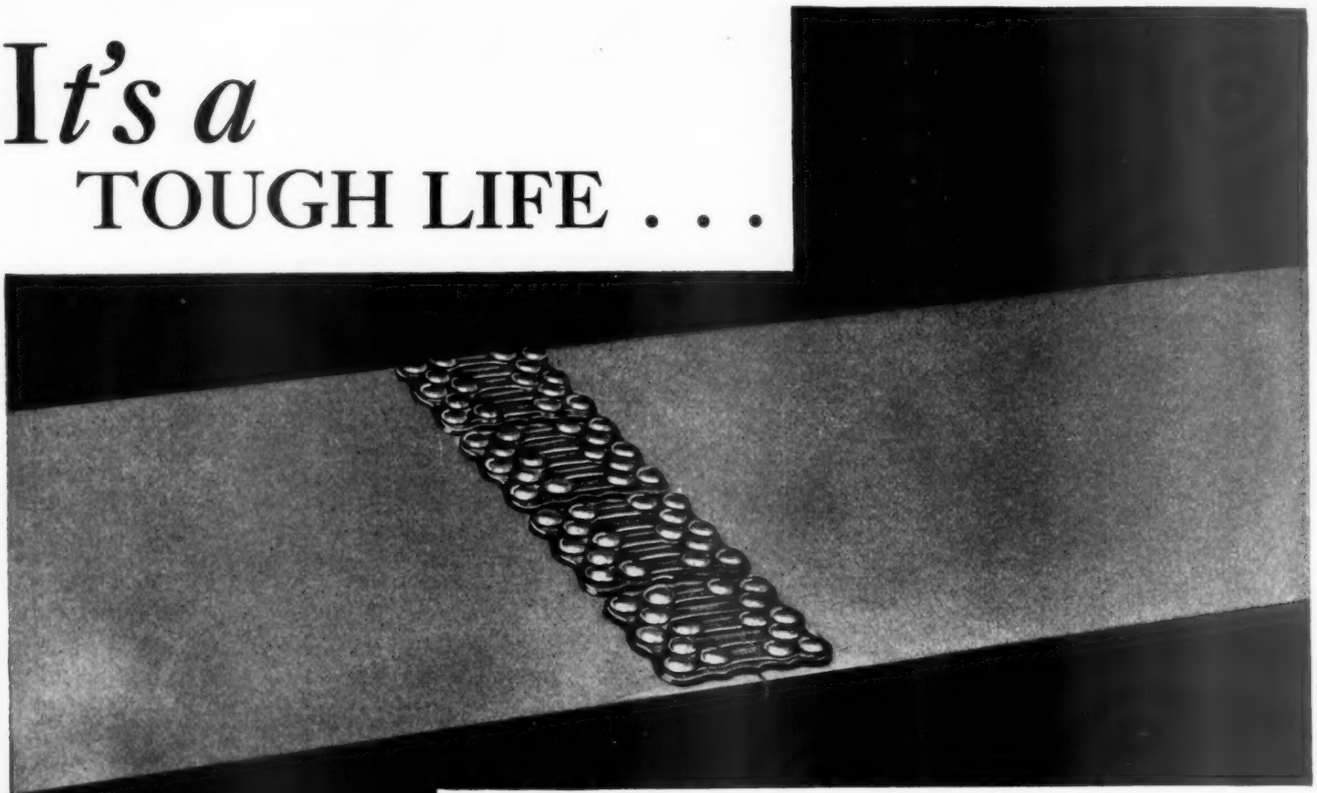

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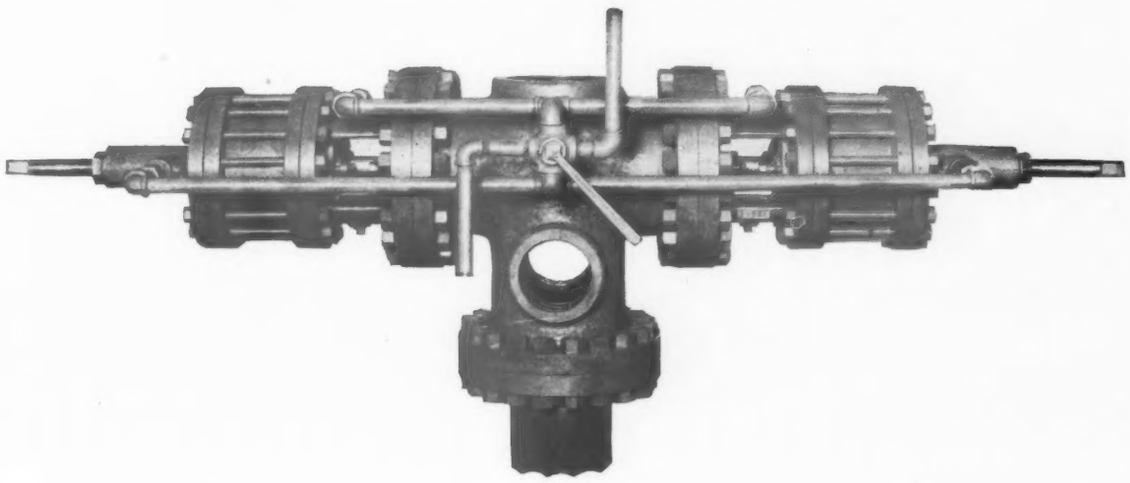
.....NO

C-I-W BLOWOUT PREVENTER HAS EVER FAILED!



There is no instance on record of a well having been closed with a C-I-W Blowout Preventer and the preventer failed to hold.

Once the steel rams in these preventers are locked around the drill stem there is no chance of it blowing out of the hole, regardless of the amount of pressure. When this steel against steel grip is taken the only way it can be released is by backing off the rams.

In the new steam operated preventer these rams are closed by the opening of a valve which allows steam to enter the cylinder and drive the rams around the drill stem. At the same time rams are securely locked around pipe by means of hand operated screws mounted on each end of the preventer.

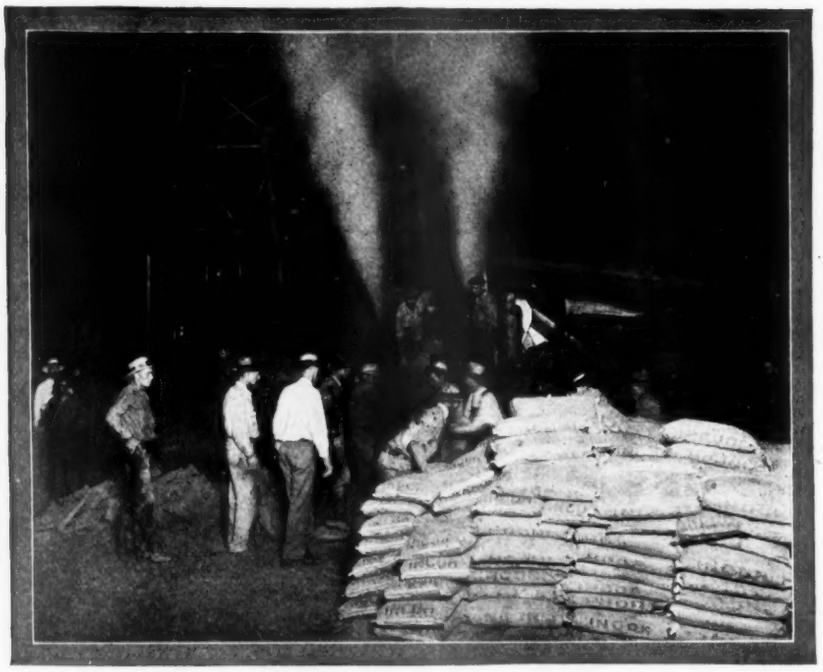
The rams are packed with an especially patented, hydraulic, oil proof, rubber which is so designed that the heavier the pressure the tighter the pack becomes. With this blowout preventer you do not have to rely upon the thickness of the mud or the weight of the drill stem to prevent a blowout. The locking of the rams around the drill stem is sufficient in itself to withold the heaviest pressures ever encountered in drilling.

A recently issued booklet giving thorough details of the construction of the preventer and its operation will be mailed upon request.

CAMERON IRON WORKS INC.

HOUSTON TEXAS

California Distributor:—PETROLEUM EQUIPMENT COMPANY, 2800 S. Alameda St., Los Angeles, California



Crew of the Haliburton Oil Well Cementing Company filling a cave in a well owned by the Cromwell-Franklin Oil Co., near Oklahoma City. 700 sacks of "INCOR" were used; drilling operations were resumed 60 hours after cementing.

Speed with Dependability in Oil Field Work

TIME is vitally important in oil well work and speed must be coupled with lasting dependable results.

Meeting this double need for speed and dependability, "INCOR" Brand Perfected High-Early-Strength Portland Cement is attaining unprecedented success in the oil well field.

"INCOR" produces permanent dependable *Portland* Cement Concrete ready to use in 24 hours. No admixtures, no new methods, no guess-work—*because* "INCOR" *is a perfected Portland cement.*

Recently a cave was encountered at 5334 feet while drilling for the Cromwell-Franklin Oil Co., near Oklahoma City. With characteristic efficiency the Haliburton Oil Well Cementing Company had the cave cemented using "INCOR" Cement and drilling operations were resumed 60 hours later.

Similar successes in cementing with "INCOR" Brand are reported almost daily from fields throughout the oil country. In many cases, "INCOR" has been used to fill caves and crevasses when all other methods have failed!

"INCOR" Brand Perfected High-Early-Strength *Portland Cement* mixes readily without lumping; it is actually quicker, easier, and less expensive to use than ordinary Portland cement with accelerator. Next time you have a difficult cementing job, or need concrete that you can use within 24 hours, give "INCOR" a trial.

INTERNATIONAL SYSTEM
LONE STAR CEMENT

Outstanding quality and a policy of fair business dealing have earned nation-wide recognition for LONE STAR Cement. Now, to meet the need for dependable 24-hour concrete, the makers of LONE STAR also offer "INCOR" Brand.

A PERFECTED HIGH-EARLY-STRENGTH "INCOR" PORTLAND CEMENT

* Reg. U. S. Pat. Off.

INTERNATIONAL CEMENT CORPORATION

342 Madison Avenue, New York

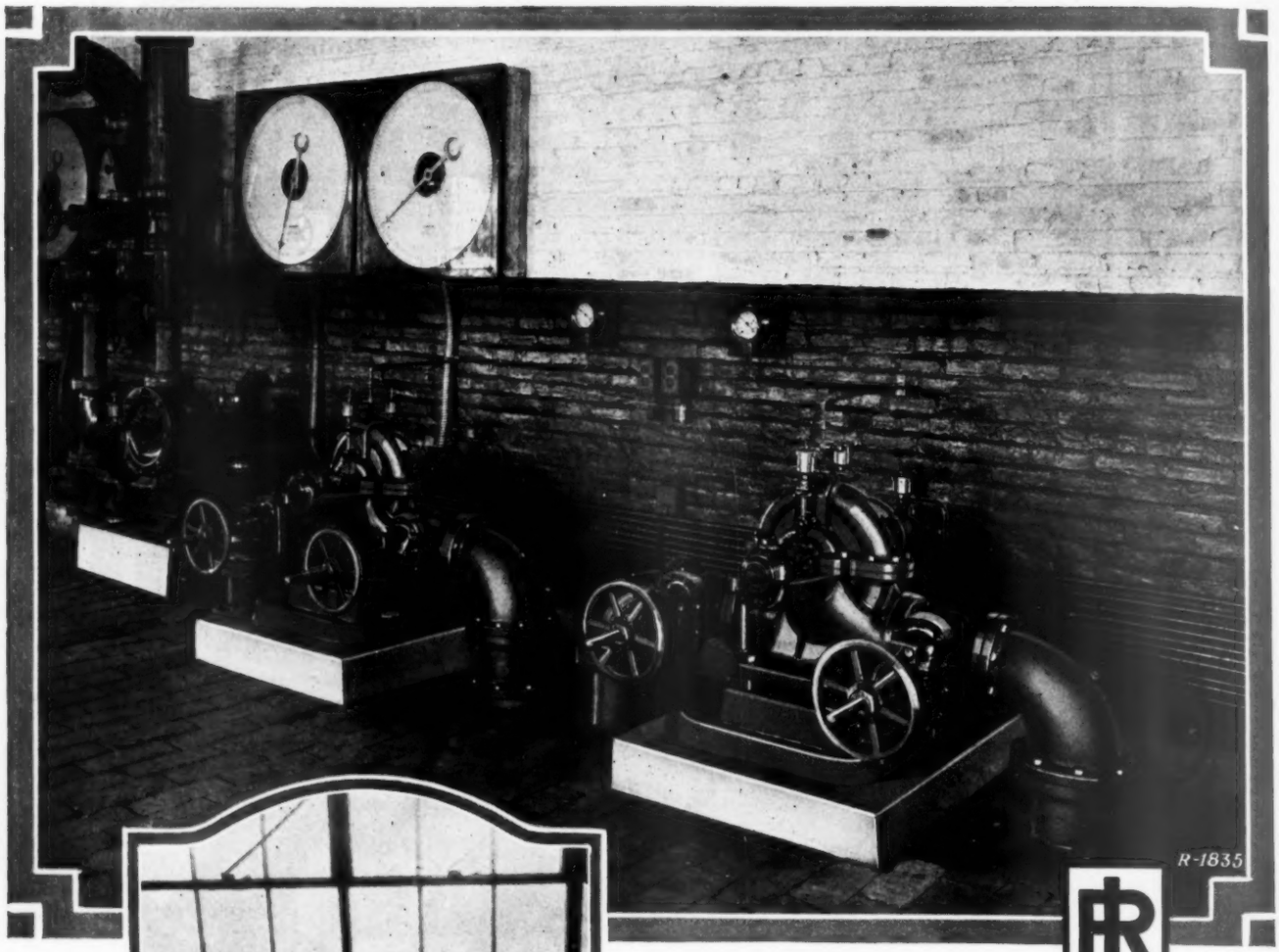
One of the world's largest cement producers—13 mills . . . total annual capacity 21,000,000 bbls.

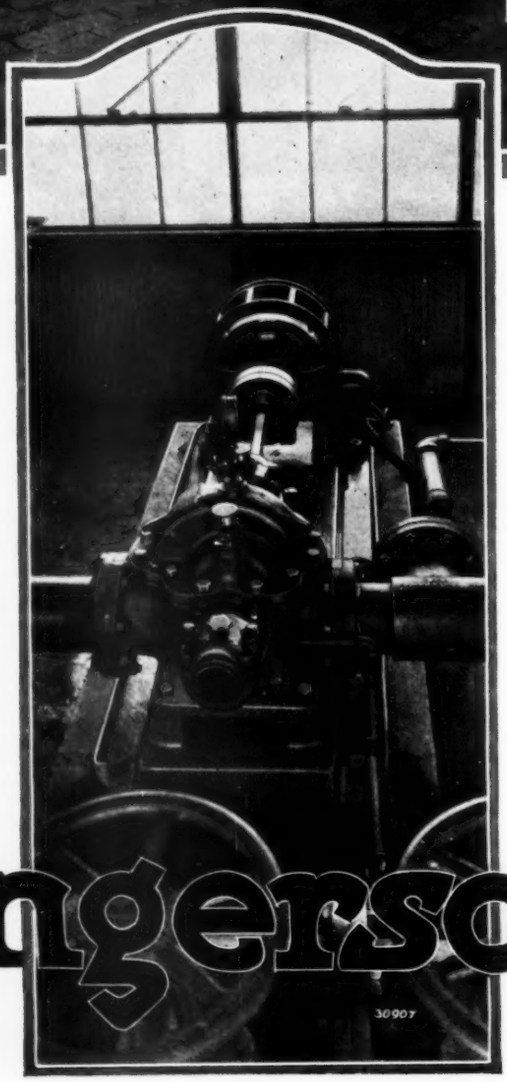
SUBSIDIARIES

LONE STAR CEMENT COMPANY ALABAMA, Birmingham, Alabama
LONE STAR CEMENT CO. INDIANA, Inc., Indianapolis, Indiana
THE CUBAN PORTLAND CEMENT CORP., Havana, Cuba
LONE STAR CEMENT CO. PENNSYLVANIA, Philadelphia, Pennsylvania
THE LONE STAR CEMENT CO. (KANSAS), Kansas City
LONE STAR CEMENT CO. VIRGINIA, Inc., Norfolk, Virginia
LONE STAR CEMENT CO. NEW YORK, Inc., Albany, New York
LONE STAR CEMENT CO. LOUISIANA, New Orleans, Louisiana
ARGENTINE PORTLAND CEMENT CO., Buenos Aires, Argentina
LONE STAR CEMENT COMPANY TEXAS, Dallas and Houston, Texas
URUGUAY PORTLAND CEMENT COMPANY, Montevideo, Uruguay

IDEAL
AL-OY STEEL SPROCKET CHAIN

THE NATIONAL SUPPLY COMPANIES





Cameron Pumps—

The Petroleum Terminal Corporation at Bayonne, N. J., have found their Cameron "LV" Gasoline Pumps to be economical, dependable, and trouble-free.

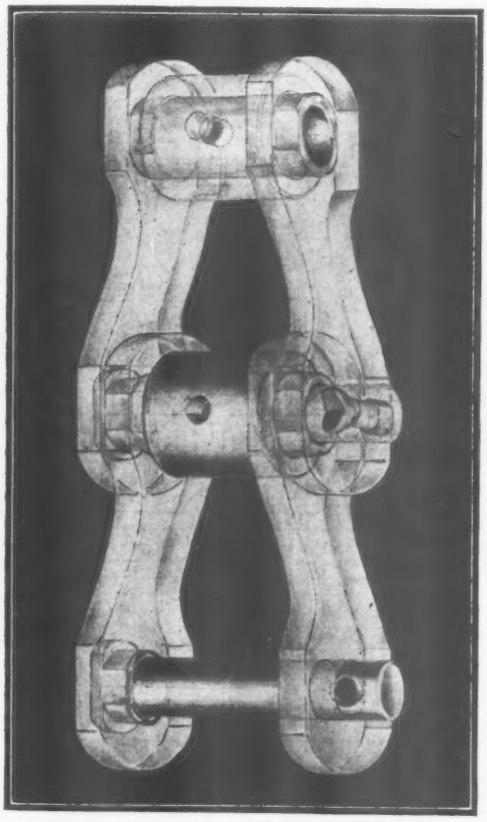
Gasoline pumps . . . circulating water pumps . . . hot oil pumps . . . pipe line pumps . . . there are many hundreds of Cameron Centrifugal Pumps operating successfully in the oil industry.

INGERSOLL-RAND CO., 11 BROADWAY, NEW YORK
A. S. Cameron Steam Pump Works
Branches or distributors in principal cities the world over
For Canada Refer—Canadian Ingersoll-Rand Co., Limited
10 Phillips Square, Montreal, Quebec

Ingersoll-Rand

365-DV

INSIDE FACTS



PATENT PENDING

IF YOU COULD X-RAY EMSCO VANADIUM STEEL SPROCKET CHAIN

YOU WOULD SEE WHY IT "STANDS UP"

UNDER HEAVIEST DRILLING CONDITIONS

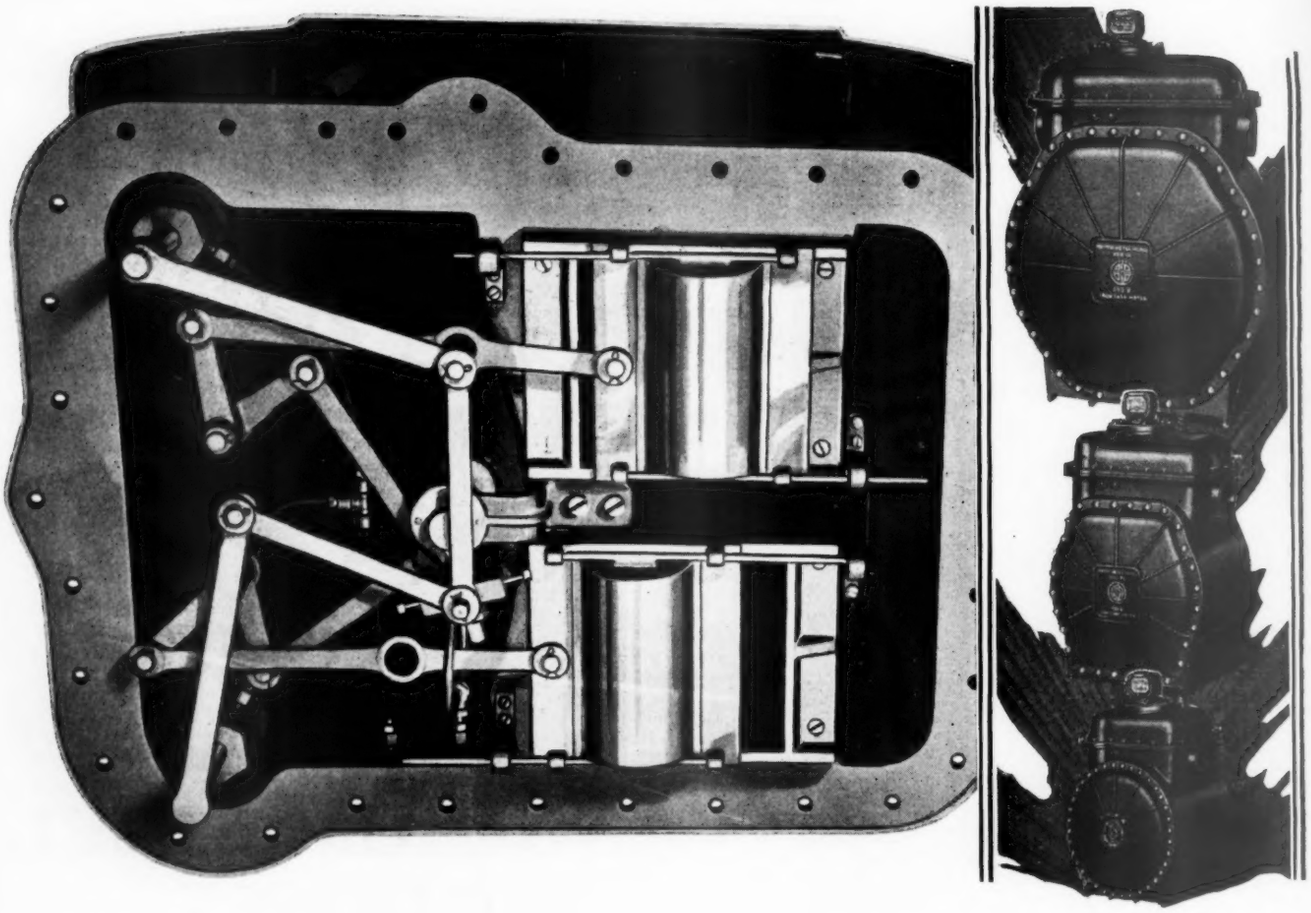
AVERAGE BREAKING STRENGTH

No. 3 - 85,000 Lbs.

No. 4 - 140,000 Lbs.

All Emsco and D+B Products (Except Derricks) Sold Exclusively in Mid-Continent Fields by The Continental Supply Company

EMSCO STEEL EQUIPPED WELLS ARE SAFE



These valves work years longer
—because of advanced construction

In the three sizes of Ironcase meters (500 B, 250 B and 80 B) most popular for services requiring large capacities, the valve movement has been developed to its most advanced stage.

Their weight has been reduced more than 50%. Naturally the less weight, the less friction, hence slower wear and much longer life.

In eliminating friction by reducing the weight, other advantages are secured. Squeaks, for instance, are not to be heard in these meters. The valve movement is a much easier job for the valve links and for the flag and crank assemblies.

With effort reduced to a minimum, the causes of wear and tear practically disappear. The result has been demonstrated now for five years. Without exception, uninterrupted and most satisfactory operation has been secured by this feature of progress for which the Metric research staff deserves full credit.

The larger Ironcase sizes have other distinguishing features. Just to name them furnishes an imposing number of reasons that explain the success of these meters. Here they are:

- Less weight for their capacity.
- Smaller space required for installation
- Longer valve links
- Lighter weight valve covers
- Better wearing valves
- Corrosion-proof cases
- Diaphragm drains
- Timken Bearings
- Alemite (non-stop) lubrication system

METRIC METAL WORKS
of the American Meter Company-Inc.
· ERIE · PENNSYLVANIA · U·S·A ·

IRON-METERS-CASE

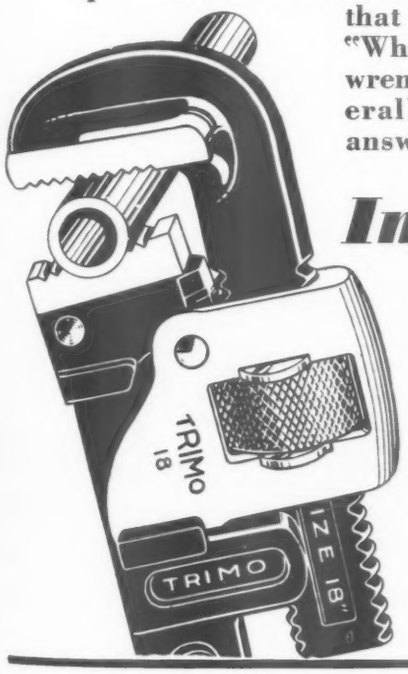
XUM

Probably a TRIMO -- *and Why*

When you see a man putting all he's got behind the pull—implicitly trusting the wrench to hang on and stay together, the wrench in question is probably a Trimo. So overwhelming is the preference for Trimo in the oil fields that the question "What kind of a wrench is it" generally draws the answer "TRIMO."

As for reasons why, let Trimo show you for itself. Test its strength by any test you want—compare its construction part for part with any other wrench made. Trimo is all steel with a handle heat treated for super strength. Replaceable jaws multiply its working hours indefinitely.

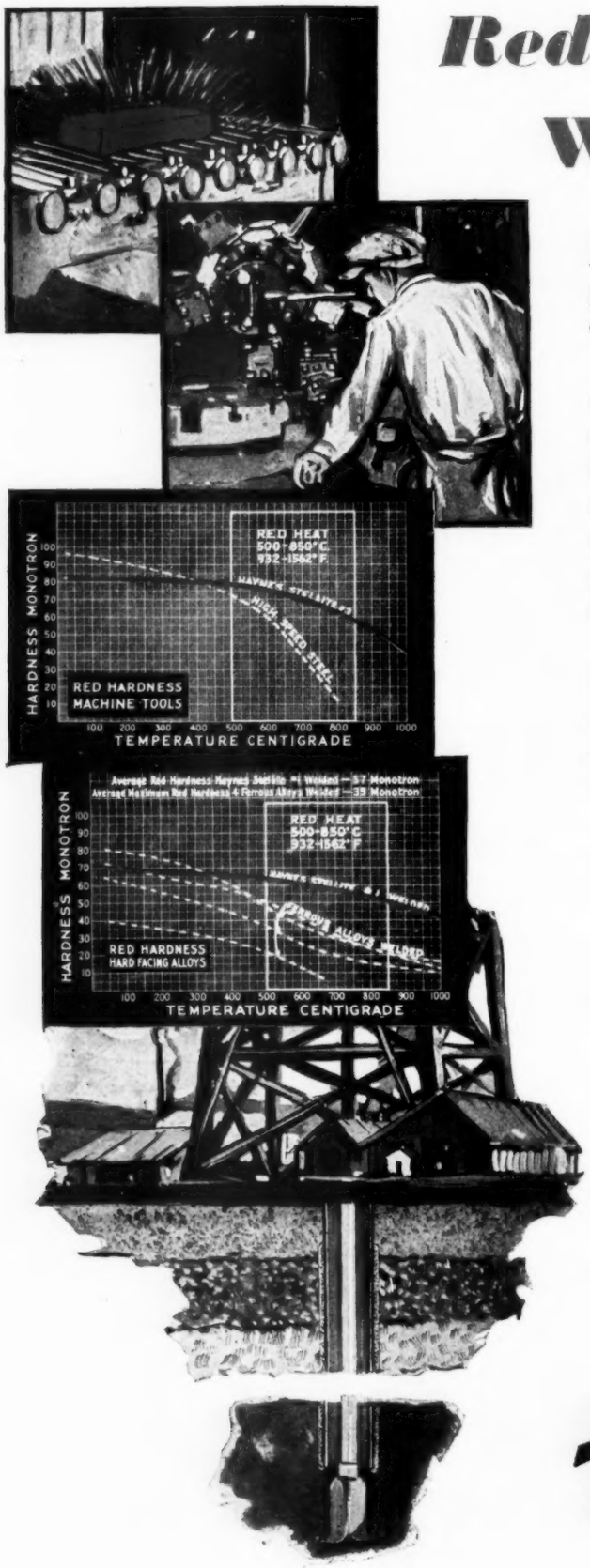
And every part of this mighty wrench is made and inspected by the Trimont Co.



Improved and Mightier

TRIMO
Pipe Wrench

TRIMONT MFG. CO., INC.
Roxbury (Boston), Mass.



Red Hardness— What Good Is It?

ALL mechanical operations absorb energy and produce heat that is concentrated on surfaces and edges resulting in high local temperatures.

These temperatures are localized in small volumes of metal and may not be visible, but when measured by scientific apparatus, they are often found to be over 900° Fahrenheit. Consequently the *cutting edges and wearing surfaces* of metal cutting tools, pulverizer parts, dipper bucket teeth, grinder rings, oil well drilling tools, and similar machine parts do this work while at a *red heat.*

Hardness is of no value unless it is possessed by an alloy when under actual operating conditions. It is RED HARDNESS and not cold hardness that establishes the value of an alloy as a cutting tool or wear resisting material.

RED HARDNESS is only another name for the ability to resist severe abrasion.

[This is the second of a series of three Ads on this interesting subject—watch for the next one]

HAYNES STELLITE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

DISTRICT SALES OFFICES

Chicago—Carbide and Carbon Bldg. Cleveland—628 Keith Bldg.
Detroit—1-240 General Motors Bldg. Houston—6119 Harrisburg Blvd.
Los Angeles—1310 Santee Street New York—30 East 42nd Street
San Francisco—114 Sansome St. Tulsa—Exchange National Bank Bldg.

General Offices—Kokomo, Indiana

Haynes Stellite welding rod is also available from any of the 28 District Sales Offices of Oxweld Acetylene Company

HAYNES STELLITE

Developed *exclusively* for oil field service ➝➝➝ Bettis Rubber ➝➝➝➝ *has no equal*

In order to perfect Bettis Protectors it was necessary to develop a special rubber. No other rubber would meet Bettis requirements.

A special factory was designed, erected and equipped with facilities solely for the purpose of developing the toughest and strongest rubber for oil well service.

Bettis engineers pooled their genius to make the finest rubber possible. The costliest para is used—brought from the Tropics direct to the Bettis laboratory where it is carefully inspected before acceptance.

Then it is processed scientifically.

There is no other rubber like Bettis. It is highly tear-resistant, retains its life and resiliency during the months of service on the pipe, does not deteriorate rapidly and will withstand more abrasion action than any other rubber known.

And remember—close to 200,000 Bettis Protectors have been placed in service—saving the Industry hundreds of thousands of dollars potentially. The majority of all deep wells now drilling are Bettis protected.

NOW READY—New Catalog, giving many interesting facts every driller should have. Ask for a copy.

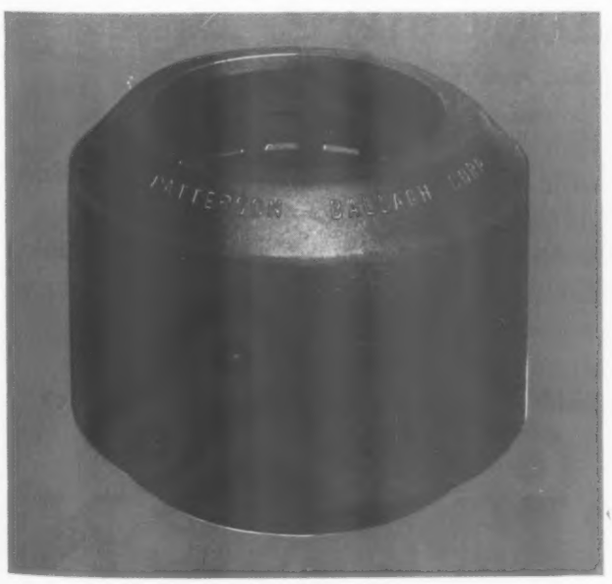
Testing Bettis rubber on electrical testing machine. Testing to 5000 lbs. and elongation of 800%.

After curing, each Bettis Protector is tested for external and internal diameter.

Bettis Protectors

Patterson-Ballagh Corporation

Insurance Exchange Bldg., Los Angeles, Calif.
New York City Office—39 Cortlandt St.
Mid-Continent Distributors—Bettis Sales Co., 616 Pub. Nat. Bk. Bldg., Houston, Texas



"Best bet yet"

NO SEAMS

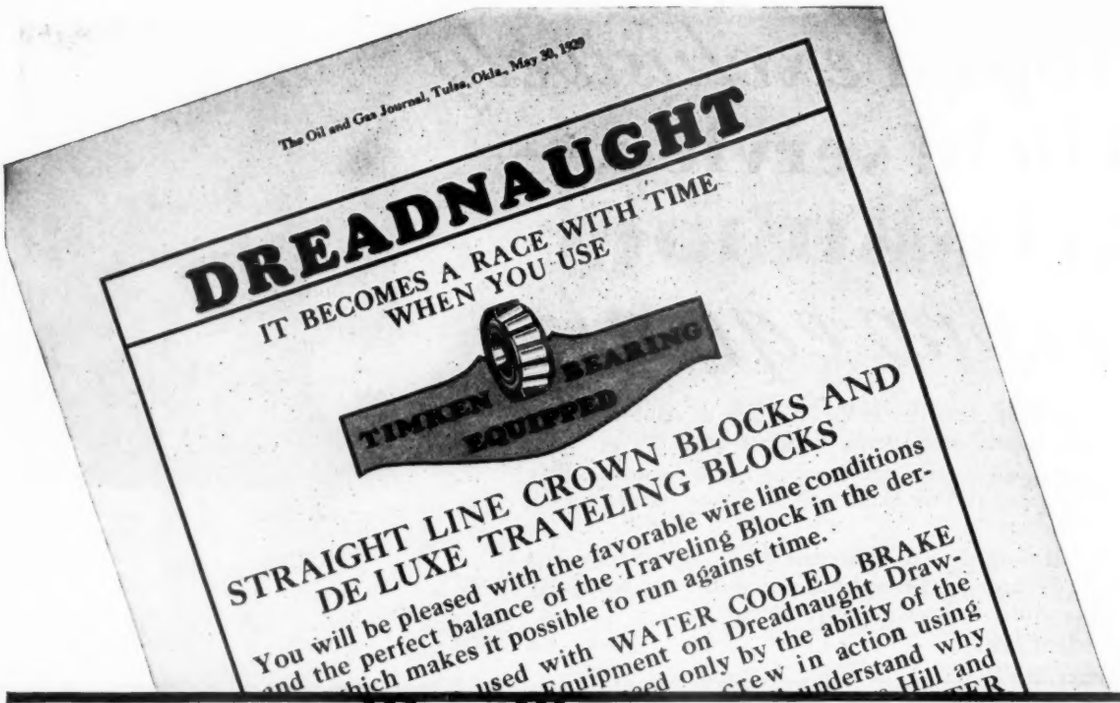
NO HINGES

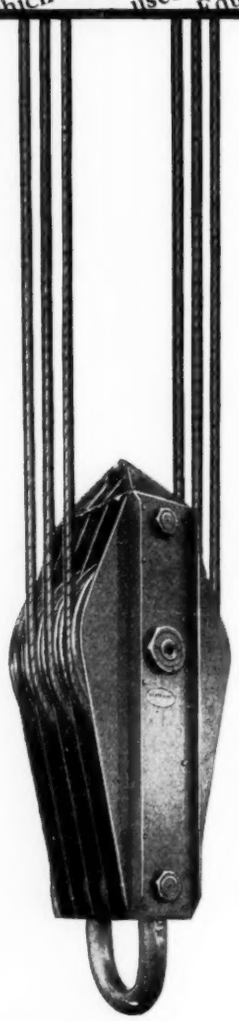
NO BAILING WIRE

NO METAL ADDED

Crude rubber as it arrives from Sumatra, ready for inspection.

Milling is done on heavy rolls and chemicals uniformly distributed throughout.


The Oil and Gas Journal, Tulsa, Okla., May 30, 1929
DREADNAUGHT
IT BECOMES A RACE WITH TIME WHEN YOU USE
TIMKEN BEARING EQUIPPED
STRAIGHT LINE CROWN BLOCKS AND DE LUXE TRAVELING BLOCKS
You will be pleased with the favorable wire line conditions and the perfect balance of the Traveling Block in the der-
which makes it possible to run against time.
used with WATER COOLED BRAKE
Equipment on Dreadnaught Draw-
eed only by the ability of the
crew in action using
understand why
Hill and



Beaumont Recognizes Timken Acceptance

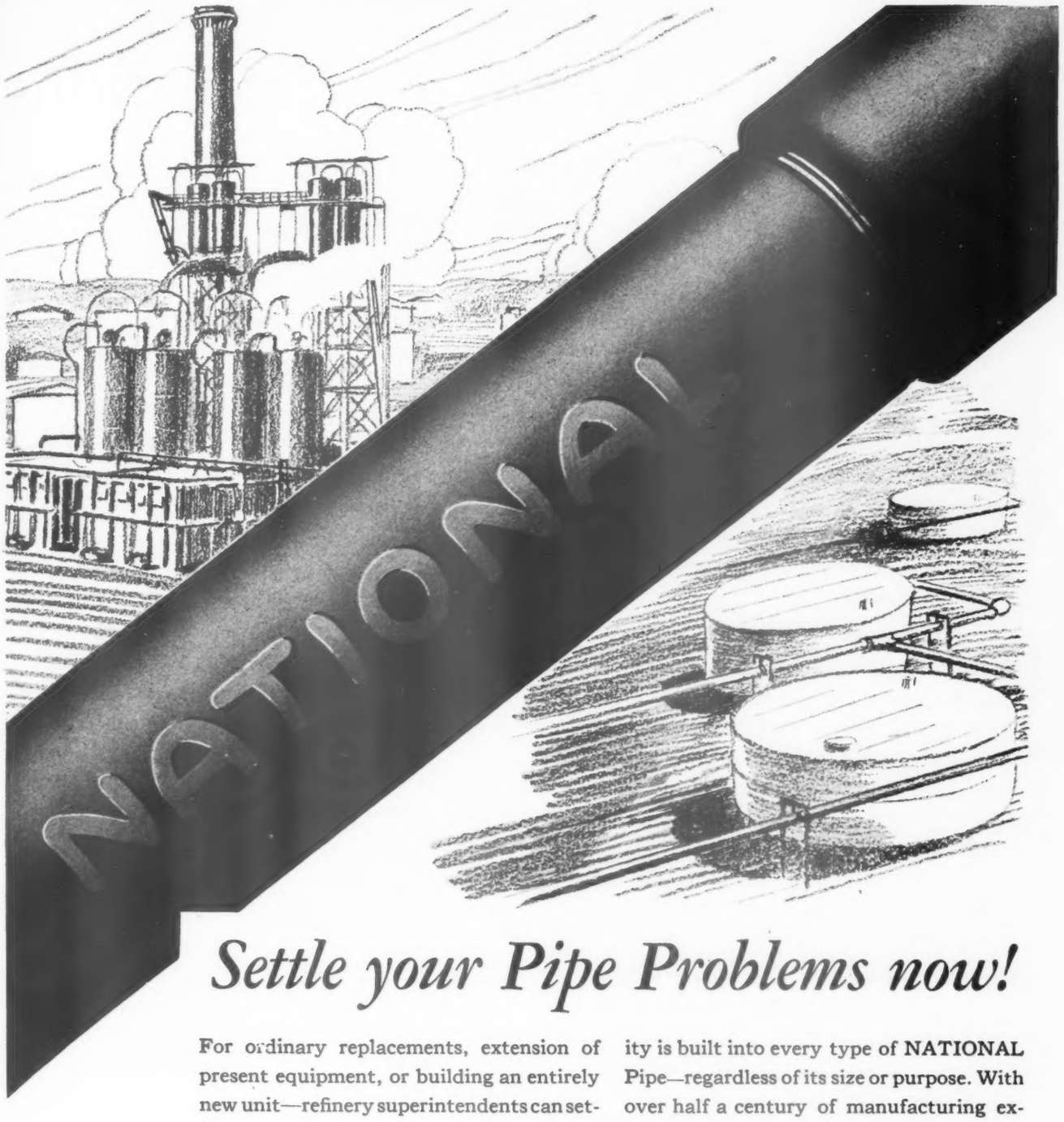
Beaumont Iron Works Company, Beaumont, Texas, use Timken Bearings in their crown and traveling blocks for greater endurance, economy and operating efficiency.

They feature "Timken Bearing Equipped" in their advertising because they know that it is accepted as proof of superior merit in all types of oil field equipment.

For Timken is *the one bearing that does all things well* . . . whether the loads are all *radial* . . . all *thrust* . . . *or a combination of both* . . . through the exclusive combination of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken steel.

THE TIMKEN ROLLER BEARING CO.
C A N T O N , O H I O

TIMKEN
Tapered
ROLLER BEARINGS



Settle your Pipe Problems now!

For ordinary replacements, extension of present equipment, or building an entirely new unit—refinery superintendents can settle once for all time the question of the right pipe to use. No matter how varied the pipe requirements in the plant, there is a NATIONAL Pipe for the purpose. And you take no chance with quality when you specify this material, because the same quality is built into every type of NATIONAL Pipe—regardless of its size or purpose. With over half a century of manufacturing experience behind it and specified by America's leading refinery builders, this is the logical pipe on which to standardize for all refinery purposes. Available in all sizes, for any pressures, for any type of joint and for all kinds of bending and forming operations.

NATIONAL TUBE COMPANY

Frick Building, Pittsburgh, Pa.

SUBSIDIARY OF

UNITED STATES STEEL CORPORATION

Quality Products *Dependable Service*

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES:

American Bridge Company
American Sheet and Tin Plate Company
American Steel and Wire Company
Carnegie Steel Company
Cyclone Fence Company
Federal Shipbuilding and Dry Dock Company
Illinois Steel Company
Minnesota Steel Company
National Tube Company
The Lorain Steel Company
Tennessee Coal, Iron & R. R. Company
Universal Portland Cement Company

Pacific Coast Distributors—United States Steel Products Company, San Francisco, Los Angeles, Portland, Seattle, Honolulu. *Export Distributors*—United States Steel Products Company, New York City

The Audit Bureau of Circulations

and the Advertiser

ADVERTISERS the continent over should become intimately acquainted with the Audit Bureau of Circulations, for it is saving them money and lost motion and enabling them to take full advantage of their business opportunities. This publication, which is a member of the A. B. C. has prepared a series of advertisements to explain to the advertisers among its readers what the organization is doing for them.

THE PURPOSE OF THE A. B. C. is to give the publications of the United States and Canada the opportunity to tell advertisers and advertising agents by a standardized method the size of their circulations, where they distribute their copies and how they build up and maintain their subscription lists. These details enable space buyers to know definitely what they will get for their money, when they insert advertisements in A. B. C. publications.

THE CONTROL and MANAGEMENT of the Bureau is vested in a Board of twenty-five directors. Thirteen are advertisers and two are advertising agents. The publisher members, although greatly outnumbering the advertiser and advertising agent members, from the first voluntarily turned over the dominance of the Board to their customers, the purchasers of space. They also agreed that only an advertiser could be president of the Bureau.

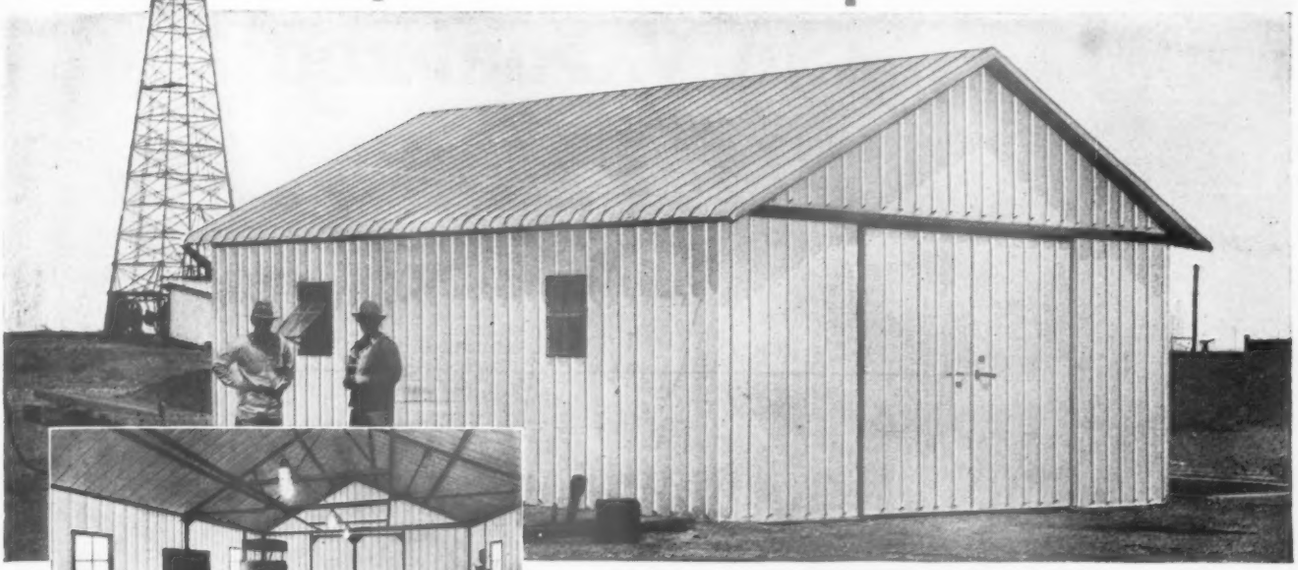
THE PRINCIPLE OF ADVERTISER DOMINANCE is generally conceded to be the principal reason for the general confidence in A. B. C. reports. Its auditors work under rules laid down by a board of directors dominated by advertisers. Publisher members have never evinced any desire to have it otherwise, knowing full well that any hint that the publishers were "auditing themselves" would kill the very confidence which alone makes the Bureau of such great value to their own business.

ADVERTISERS are the ones for whom the A. B. C. was founded. ADVERTISERS have always borne a large part of the responsibilities for its management. But advertisers and publishers profit mutually by its operation, because buyer and seller must profit mutually in every honorable transaction.

THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS
Publishers
The Oil Weekly
The Petroleum Marketer
The Refiner & Natural Gasoline Manufacturer

Our publications are all members of The Audit Bureau of Circulations. Our Circulation statements are verified by trained auditors of the Bureau.

For Pipe Line Operations



STEEL BUILDINGS

The pulsating power that "pushes" oil over hills, down valleys, across streams and under rivers—through the criss cross work of the Nation's pipe lines—logically finds shelter in steel buildings.

Particularly is this true of Butler Ready-Made Steel Buildings in which pipe line operators find available such vital advantages as—

Fire safeness to offset the lack of fire protection at outpost stations.

Complete materials, ready made and readily transported to whatever site power needs make necessary.

Speed in erection by whatever sort of labor crews are available along the right-of-way or by Butler field crews.

Investment and maintenance lower than for any other comparable type of construction.

Structural qualities which insure permanence, yet which permit enlarging or taking down and re-erecting without loss of anything more than a few dropped bolts.

In Butler Ready-Made Steel Buildings, unique shaping multiplies the strength of steel. Throughout the maximum strength per pound is attained.

A new booklet pictures many installations of Butler Ready-Made Steel Buildings to serve all branches of the oil industry. Send for it and call upon Butler engineers to supply full details and prices on any type of structure in mind.

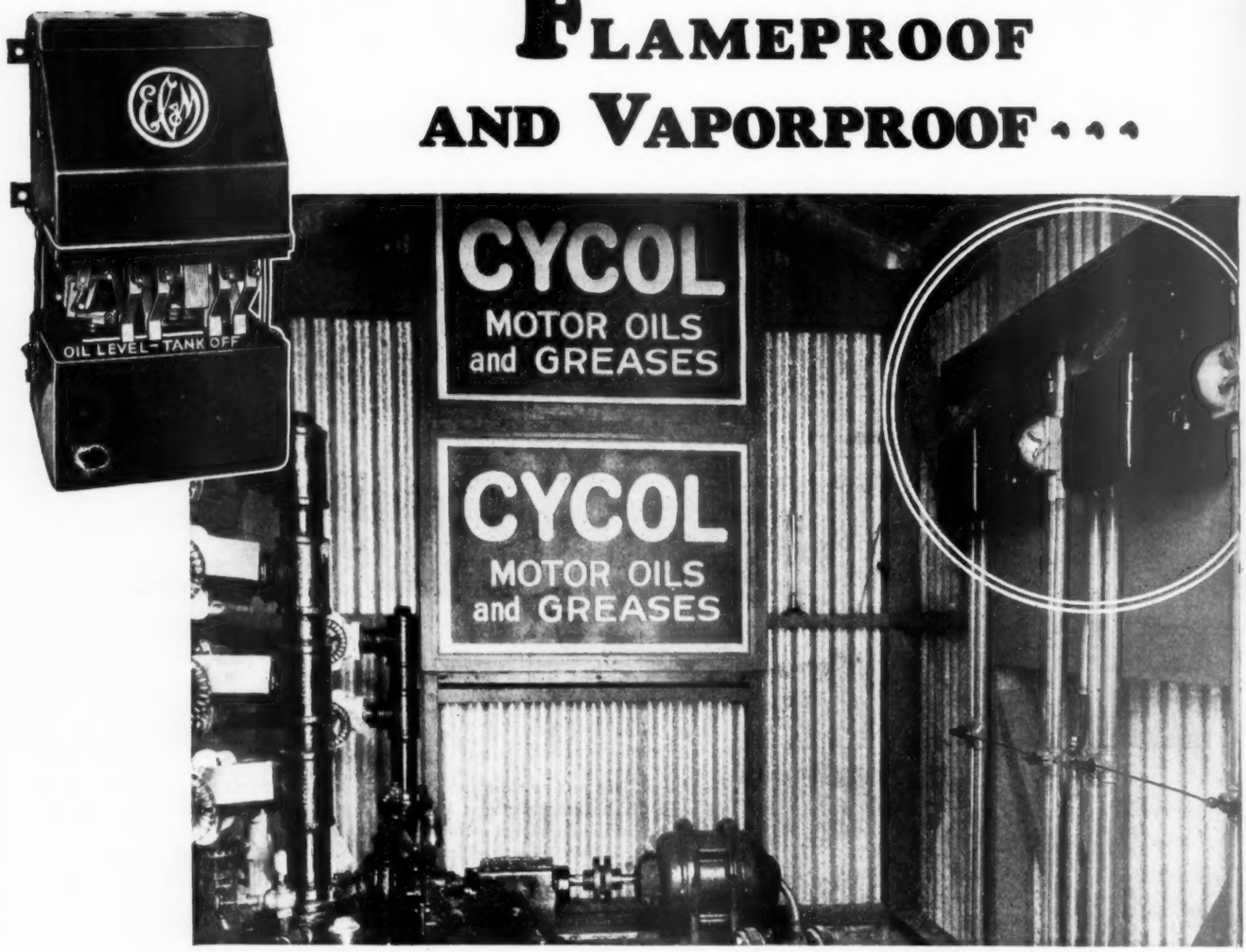
BUTLER MANUFACTURING COMPANY

1246 Eastern Ave., KANSAS CITY, MISSOURI
946 6th Ave. S.E., MINNEAPOLIS, MINNESOTA

BUTLER
READY-MADE
STEEL BUILDINGS

TRADE STEEL BUTLER PRODUCTS

FLAMEPROOF AND VAPORPROOF . . .



E C & M Control eliminates Fire Hazards

This Distributing Company has taken every precaution to eliminate fire hazards. All the starters for controlling the small motors driving their gasoline pumps are EC&M Type Z0 Automatic Oil-Immersed Starting Switches.

The Push Buttons for starting and stopping the motors are shown mounted alongside of the starters. They are EC&M Vaporproof Push Buttons. Besides these two which are used for local control, there are two other push buttons which provide remote control and are mounted outside at the truck-loading platform.

Why run the risk of a disastrous fire when EC&M can supply you with a complete line of Automatic Oil-Immersed Motor Starters which will provide 100% safe operation in any explosive atmosphere?

These starters include the Type Z0 Switch which is fully described in Bulletin 1048, and the EC&M Low-Voltage and High-Voltage Totally Oil-Immersed Automatic Compensators which are described in Bulletins 1042-F and 1047. If you do not have copies of these bulletins, our nearest branch office will be glad to mail them to you, on request.

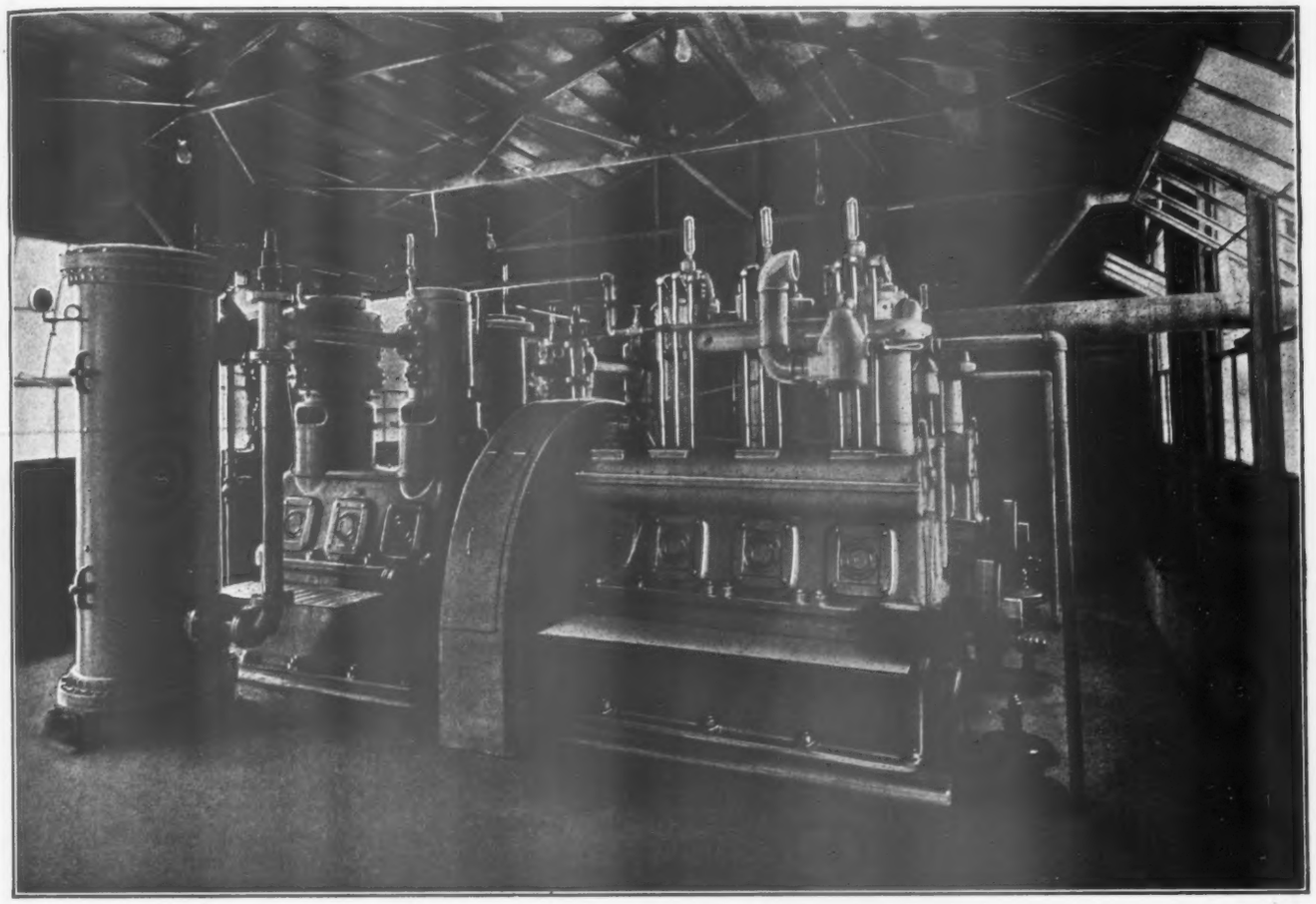
THE ELECTRIC CONTROLLER & MFG. CO.

NEW YORK-50 CHURCH ST.
CHICAGO-CONWAY BLDG.
DETROIT-DIME BANK BLDG.
BIRMINGHAM-BROWN-MARX BLDG.
CINCINNATI-1ST NATIONAL BANK BLDG.
DENVER-KITTREDGE BLDG.

CLEVELAND, OHIO

LOS ANGELES-912 E. THIRD ST.
HOUSTON-1006 WASHINGTON AVE.
TORONTO-REFORD BLDG.

PHILADELPHIA-WITHERSPOON BLDG.
PITTSBURGH-OLIVER BLDG.
SAN FRANCISCO-CALL BUILDING
MONTREAL-CASTLE BLDG.
TULSA-217 E. ARCHER ST.
SEATTLE-ALASKA BLDG.



An installation of two CP duplex two-stage vertical compressors, each direct-connected to a CP gas engine. Vacuum Oil Co., Lake Charles, La.

direct-connected oil or gas engine driven compressors provide an exceptionally compact compressed air or gas plant that cannot be excelled in ECONOMY, RELIABILITY and SMOOTHNESS of OPERATION. Capacities in this type compressor range from 423 to 3000 cubic feet per minute; pressures from 10 to 1000 pounds per square inch. Send for illustrated descriptive bulletin.

Chicago Pneumatic Tool Co.

6 East 44th Street, NEW YORK, N. Y.

Sales and Service Branches all over the World

Whealton & Townsend Co., Inc., *Authorized Distributors*

417 South Hill St., Los Angeles
1502 Magnolia Bldg., Dallas

120 East Brady St., Tulsa
1415 Fannin St., Houston

C-288

CHICAGO PNEUMATIC

COMPRESSORS

Quality Products Only

AXELSON MACHINE COMPANY
Sucker Rods, Pull Rods, Working Barrels, etc.

DONOVAN BOILER WORKS
Oil Country Boilers and Tanks

BEAUMONT IRON WORKS COMPANY
Dreadnaught Rotary Drilling and Pumping Equipment

FRICK-REID SERVICE RUBBER BELTING
Our Own Specifications

JONES & LAUGHLIN STEEL CORPORATION
Tubular Goods, Seamless and Lapwelded

J. P. RATIGAN
"Sure Grip" Line of Pumping Equipment

NATIONAL TRANSIT PUMP & MACHINE COMPANY
Pumps and Pipe Line Equipment

WILLIAM POWELL COMPANY
Valves for the Oil Industry

JOSEPH REID GAS ENGINE COMPANY
Two and Four Cycle Gas Engines, Pumping Powers, Refinery Equipment

JOHN A. ROEBLING'S SONS COMPANY
Wire Lines and Welding Wire

ROSSENDALE-REDDAWAY COMPANY
"Camel Hair" and canvas stitched belting

WALWORTH COMPANY
Fittings and Valves for all branches of the oil industry

WHITLOCK CORDAGE COMPANY
Manila Cordage, including Drilling Cables, Bull Ropes, Cat Lines, etc.

Quality Products Only

FRICK ·REID·

SUPPLY CORPORATION

Pittsburgh . . . . . Tulsa

Prompt Delivery on all J&L PIPE

Identify by Jones & Laughlin on every length

When you order J & L Seamless Steel Casing, or any other J & L Tubular Products, you obtain, at no additional cost, delivery service that is equal in every respect to the unsurpassed quality and dependability of the pipe itself.

Our ownership-control of all factors in the making of tubular goods, from raw material sources to the most modern tube mills, is your assurance that our production will always be ahead of demand. We maintain an extensive warehouse and yard at Memphis, well stocked with adequate supplies of J & L pipe, both welded and seamless, supplemental to well-rounded out stocks carried by our distributors in their yards at strategic points in the oil and gas fields to serve emergency requirements.

To have pipe on hand when you need it, order J & L.

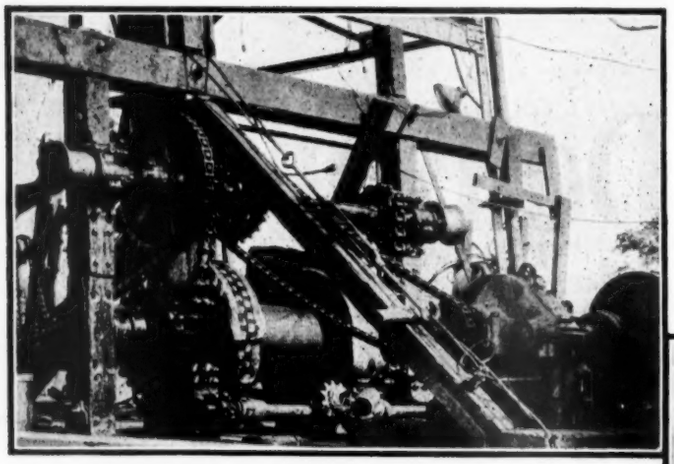
J&L STEEL

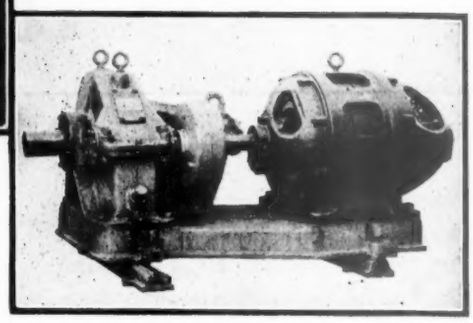
Your Guarantee of Prompt Service

J & L own and operate, not only the most modern tube mills, steel plants, and blast furnaces, but also mines and quarries, and transportation facilities. Thus, we control all factors entering into volume production of J & L Tubular products.

Large and complete stocks of tubular goods, welded and seamless, are carried in this extensive J & L Warehouse and yard at Memphis, Tenn., to meet the service requirements of the trade and for quick replenishment of our distributors' stock in the field, used in serving emergency needs.

JONES & LAUGHLIN STEEL CORPORATION
PITTSBURGH PENNSYLVANIA





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The self-contained unit takes the place of a belted countershaft and permits a more compact arrangement because the motor is directly coupled to the unit and is mounted on the same base. Thus, less housing space is used and the equipment is more readily transportable.

The Type OP-5 unit is designed for operation with 75, 100 or 125-hp. motors, and is supplied with ratios of either 3.25:1 or 4.01:1, depending upon the speed of the motor used.

Power is transmitted by BP "tough-hard", heat-treated, herringbone gears which run in a bath of oil in a totally-enclosed, dirt-proof case. Shafts turn on anti-friction roller bearings, and lubrication is provided by a positive splash system.

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Detailed information on Westinghouse-Nuttall units may be obtained from any branch of the Oil Well Supply Company, located in all oil fields, or from any Westinghouse sales office.

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